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# A Non-random Walk down Canary Wharf

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## Abstract

In this paper I perform a panel data analysis to evaluate whether financial technical indicators are able to predict stock market returns. By using a panel of 40 stocks taken from the Financial Times Stock Exchange (FTSE) observed in 2004, I test the ability of 75 amongst the most famous technical indicators used by traders to predict next-day returns. Surprisingly, results are robust in demonstrating that many of these are good predictors, supporting the validity of the technical analysis.

*"A blindfolded monkey throwing darts at a newspaper's financial pages could select a portfolio that would do just as well as one carefully selected by the experts." (Prof. Burton G. Malkiel, "A Random Walk Down Wall Street")*

## 1 Introduction

Is it possible for stock market returns to be predictable to some extent under the efficiency of financial markets hypothesis? This question has always been one of the biggest brainteaser in the literature of financial markets. If we had asked this question before the 80s we would have hardly encountered any academician who would have answered "yes". Before that time, almost the entire academic community believed in the Random Walk hypothesis, which states that stock market prices evolve according to a random walk and thus the prices of the stock market cannot be predicted. This idea, studied mostly in natural and physical sciences, found its first applications in the economic theory thanks to contributions by Samuelson (1965) who maintained that in an informationally efficient market (Fama, 1970) there is not any possibility to foresee market prices. Nevertheless, the belief on the existence of a strong relation between the Random Walk Hypothesis and the Efficiency Market Hypothesis was weakened by some authors (LeRoy 1973, Lucas 1978) who demonstrated that the Random Walk Hypothesis is neither a necessary nor a sufficient condition for rationally determined security prices. In the 1973, Burton Malkiel's famous book *A Random Walk down Wall Street* popularised the Random Walk idea and suggested

that investors would be far better off buying and holding an index fund than attempting to buy and sell individual securities or actively managed mutual funds. Therefore, no hope is left to market analysts who spend their days in search of a golden technical indicator or parameters taken from the fundamental analysis which are able to predict market's trends. Even though the author based his theory more on his feeling and experience than on mathematical proofs, the fame of the book is still notorious at present time. The book itself contains also a fierce critique to the technical and fundamental analyses, two disciplines which aims to find tools and indicators to predict market returns, the former by using charts and technical indicators (i.e. Relative Strength Index, Moving Averages) and the latter by using indicators derived by the balance-sheet (i.e. Price/Earnings ratios, ROI, ROC). Technical analysis, which is often seen by detractors more as a witchcraft than a true science, has always existed since financial markets were born and today there are many books teaching how to detect a market trend (Pring, 2003, Murphy,1999). For many years this collection of rules has seemed to loosing their validity against the more scientifically demonstrated Random Walk Theory, but from the 80s pioneering works by Lo and MacKinley (1988) started to demonstrate, from a scientifically point of view, that markets returns can be predicted to a certain degree and that the Random Walk Hypothesis can be rejected for recent US equity returns.

This paper shows how the Random Walk Hypothesis is not applicable to British equity markets contest. To demonstrate this I perform a panel data analysis of 75 indicators amongst the most famous used by technical analysts around the world for 40 companies listed in the FTSE. I use different econometrical techniques applied to panel data such as one-way and two-way clustered robust standard errors, fixed effects, GLS random effects, Newey-White standard errors and bootstrap robust standard errors and I show that many indicators are strongly significant in predicting next-day market returns.

Researches aiming to assess the predictability of stock market returns by using technical analysis have been already made in the literature<sup>1</sup>. Taylor and Allen (1992) reported the results of a questionnaire survey among chief foreign exchange dealers and discovered that at least 90 per cent of respondents place some weight on non-fundamental analysis when forming views at one or more time horizons, while a very high proportion of chief dealers view technical and fundamental analysis as complementary forms of analysis. Brock et al. (1992) tested two simple trading rules (Moving Average and trading range break) for the Dow Jones and discovered that returns obtained with these strategies were not compatible with the Random Walk Hypothesis. Osler (2002) demonstrated that “support” and “resistant” points are able to predict intraday trend interruptions in Intraday Exchange Rates. To the best of my knowledge this is the first attempt in the literature to systematically quantify the impact of financial market indicators on market returns.

With respect to the previous literature, my paper introduces at least three

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<sup>1</sup>For example Daniel and Titman (2006) found that the book-to-market ratio forecasts returns because it is a good proxy for the intangible return and that a composite equity issuance measure, which is related to intangible returns, independently forecasts returns.

important novelties. First, the analysis uses a wide variety of indicators, some of them (e.g. Cole's Rally Day or Q-stick) never used before in an empirical paper. Second, regressions were performed under different hypothesis about standard errors, which are particularly tailored to capture idiosyncratic time and firm components. Last, it is the first time the an analysis on the validity of technical indicators was performed for the FTSE, one of the leading stock market indexes in the world.

## 2 The Random Walk Hypothesis (RWS)

In a nutshell the random walk hypothesis affirms that stock market prices evolve according to a random pattern. As a consequence stock market returns cannot be predicted. If we define the market return of asset  $i$  at time  $t$  as  $r_{it} = \frac{p_{it} - p_{it-1}}{p_{it-1}}$ , where  $p_{it}$  is the closing price at time  $t$ , a sequence of random returns is a random walk (with drift) if

$$r_{it} = \delta_i + \varepsilon_{it} \quad \varepsilon_{it} \sim iid(0, \sigma_\varepsilon) \quad (1)$$

That is, true returns at time  $t + 1$  vary around the expected returns at time  $t$

$$E_t(r_{it+1}) = E_t(\delta_i) + E_t(\varepsilon_{it}) = \delta_i \quad (2)$$

Furthermore, let us define  $\Omega_t$  as the information set at time  $t$ , which encompasses all the market information about opening prices  $p^o$ , closing prices  $p^c$ , high prices  $p^h$ , low prices  $p^l$  and volume  $v$

$$\Omega_t = \{p_t^c, p_{t-1}^c, \dots; p_t^o, p_{t-1}^o, \dots; p_t^h, p_{t-1}^h, \dots; p_t^l, p_{t-1}^l, \dots; v_t, v_{t-1}, \dots\}$$

so that we can rewrite 2 as follows

$$E_t(r_{it+1}|\Omega_t) = E_t(r_{it+1}) \quad (3)$$

## 3 The Technical Analysis of Financial Markets

The technical analysis of financial markets is a technique which aims to identify price patterns and trends in financial markets in order to forecast future directions of security prices (Murphy (1999), Pring (2002))<sup>2</sup>. Technical analysts believe that market returns are predictable through the analysis of past data,

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<sup>2</sup>The technical analysis is sometimes opposed to the fundamental analysis, another approach which aims to make financial forecasts by studying firms' financial statements, business health, management and competitors.

primarily price and volume. Moving from the Dow Theory<sup>3</sup> (Rhea,1932), the technical approach is based on three main premises

1. market action discounts everything;
2. prices move in trends and
3. history repeats itself.

Technicians believe that forecasting market prices is possible as long as price actions reflect shifts in demand and supply of market operators. The goal of charting price actions is to detect trends as soon as they appear, for the purpose of trading in the direction the trend is following. Technical analysis employs several trading rules and tools which can be divided in two types: **charts** and **indicators**. The most famous charts are the *barcharts*, the *Japanese candlesticks* and the *point and figure charts*. By analysing these figures it is possible to detect price patterns, usually divided in reversal and continuation patterns<sup>4</sup>. Otherwise, technical indicators should provide a more quantitative measure of trends. Usually they are categorised in *moving averages*, *momentum indicators* (i.e. *Relative Strength Index*), *volume indicators* (i.e. *Demand Index*) and *breadht indicators* (i.e. *advance/decline line*). From a strategical point of view, technical analysts believe that it is possible to beat the market if one is able to "read" indicators and figures, whilst supporters of the RWH maintain that the best strategy is simply the "buy and hold" one.

## 4 Empirical Evidence

### 4.1 Database

The panel includes 75 technical indicators calculated for 40 companies listed on the FTSE 100 in 2003 (see list in Appendix 1). Indicators were calculated by using AnalyzerXL<sup>TM</sup> software, which exploit data from Yahoo.com remote database.

### 4.2 Econometric Technique

#### 4.2.1 One-way and Two-way Error Component Models

The basic model I want to analyse is the following:

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<sup>3</sup>The theory, based on some articles which Charles H. Dow wrote on the *Wall Street Journal* between 1900 and 1902, assumes that the majority of stocks follow an underlying market trend. To measure this trend, Dow built two indicators: the *Industrial Average* and the *Rail Average*, which later was renamed as *Transportation Average*

<sup>4</sup>The most recognised reversal patterns are: *head and shoulders*, *double tops and bottoms*, *broadening formations*, *spike tops and bottoms* and *rounding patterns*. Instead, the continuation patterns variety encompasses *triangles*, *flags*, *pennants*, *wedges* and *rectangles*.

$$r_{it+1} = \delta + \beta F_g(\Omega_{it}) + \varepsilon_{it+1} \quad i = 1, \dots, N, t = 1, \dots, T \quad (4)$$

The object of the analysis is verifying whether the null hypothesis  $H_0 : \beta = 0$  holds. If it does, then the contribution provided by the  $g$ -th indicator, based on the information set at time  $t$  is nil; otherwise, it gives a contribute to predict the next day return.

It is well known (Baltagi, 2008) that panel data applications may use different specifications for the disturbances. Most of them utilize a *one-way* error component model, with  $\varepsilon_{it+1} = \gamma_i + \eta_{it+1}$ , where  $\gamma_i$  is an unobservable firm specific effect<sup>5</sup> and  $\eta_{it+1}$  is the remainder disturbance. Then, 4 may be re-written in the following fashion:

$$r_{it+1} = \delta + \beta F_g(\Omega_{it}) + \gamma_i + \eta_{it+1} \quad \eta_{it+1} \sim IID(0, \sigma_\eta) \quad (5)$$

$F_g(\Omega_{it})$  is assumed to be independent of  $\varepsilon_{it+1}$  for all  $i, t$  and  $g$ . Instead of an unobservable firm specific effect, a one-way error component model may contain an unobservable time specific effect,  $\gamma_t$ :

$$r_{it+1} = \delta + \beta F_g(\Omega_{it}) + \gamma_t + \eta_{it+1} \quad \eta_{it+1} \sim IID(0, \sigma_\eta) \quad (6)$$

Of course, we may want to consider the presence of both specific factors in the model (Hussain, 1969 and Nerlove, 1971). In this case we are referring to the *two-way* error component model:

$$r_{it+1} = \delta + \beta F_g(\Omega_{it}) + \gamma_t + \gamma_i + \eta_{it+1} \quad \eta_{it+1} \sim IID(0, \sigma_\eta) \quad (7)$$

The choice of the model is fundamental to obtain unbiased and consistent estimates. As demonstrated by Baltagi when the true model is fixed effects as in 5 or 6, OLS on 4 leads to biased and inconsistent estimates of regression parameters, because OLS does not take account of firm (time) dummies when they are actually relevant. The same consideration holds when the true model is 7: in this case both 5 and 6 (and, of course, 4) are biased and inconsistent because they ignore the presence of one of the two fixed effects. The presence of significant idiosyncratic effects can be seen *per se* as a violation of the Random Walk Hypothesis, because it recognises that unobserved characteristics of firms across time influence stock prices.

#### 4.2.2 Fixed and Random Effects

Idiosyncratic effects may be fixed parameters or drawn randomly from a large population. In the first case we have a **fixed effects model**, while in the second

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<sup>5</sup>Examples of unobserved firm effects are the quality of management, firm's reputation and the strenght of the brand, while unobserved time effects could be represented by global economic trend or market sentiments.

a **random effects model**, under the assumption that  $\gamma_i \sim IID(0, \sigma_\gamma)$  or  $\gamma_t \sim IID(0, \sigma_\gamma)$ , in the one-way case, and  $\gamma_i \sim IID(0, \sigma_\gamma)$  and  $\gamma_t \sim IID(0, \sigma_\gamma)$  in the two-way case. In the presence of fixed parameters we perform ordinary least squares (OLS) to obtain the Least Square Dummy Variable Estimator (LSDV), which is BLUE as long as  $\eta_{it+1} \sim IID(0, \sigma_\eta I_{NT})$ <sup>6</sup>. To obtain the OLS estimator we average over time

$$\bar{r}_{i.} = \delta + \beta \bar{F}_g(\Omega_{i.}) + \gamma_i + \bar{\eta}_{i.} \quad (8)$$

where  $\bar{r}_{i.} = \sum_{t=2}^{T+1} \frac{r_{it}}{T}$ ,  $\bar{F}_g(\Omega_{i.}) = \sum_{t=1}^T \frac{F_g(\Omega_{i.})}{T}$  and  $\bar{\eta}_{i.} = \sum_{t=2}^{T+1} \frac{\eta_{i.}}{T}$ . Subtracting 7 from 8 we obtain:

$$r_{it+1} - \bar{r}_{i.} = \beta (F_g(\Omega_{it}) - \bar{F}_g(\Omega_{i.})) + (\eta_{it+1} - \bar{\eta}_{i.}) \quad (9)$$

and finally the set of estimators:

$$\begin{cases} \hat{\beta}_{FE1} = \frac{\sum_i \sum_t (F_g(\Omega_{it}) - \bar{F}_g(\Omega_{i.})) (r_{it+1} - \bar{r}_{i.})}{\sum_i \sum_t (F_g(\Omega_{it}) - \bar{F}_g(\Omega_{i.})) (F_g(\Omega_{it}) - \bar{F}_g(\Omega_{i.}))'} \\ \hat{\delta} = \bar{r}_{..} - \hat{\beta}_{FE1} \bar{F}_g(\Omega_{..}) \\ \hat{\gamma}_i = \bar{r}_{i.} - \hat{\delta} - \hat{\beta}_{FE1} \bar{F}_g(\Omega_{..}) \end{cases}$$

The same result holds when we average over individuals. In a two-way error component regression model the OLS estimator is obtained by sweeping time and individual effects. The transformed model 9 becomes

$$(r_{it+1} - \bar{r}_{i.} - \bar{r}_{.t} - \bar{r}_{..}) = \beta (F_g(\Omega_{it}) - \bar{F}_g(\Omega_{i.}) - \bar{F}_g(\Omega_{.t}) - \bar{F}_g(\Omega_{..})) + (\eta_{it+1} - \bar{\eta}_{i.} - \bar{\eta}_{.t} - \bar{\eta}_{..}) \quad (10)$$

and the new set of estimators is:

$$\begin{cases} \hat{\beta}_{FE2} = \frac{\sum_i \sum_t (F_g(\Omega_{it}) - \bar{F}_g(\Omega_{i.}) - \bar{F}_g(\Omega_{.t}) - \bar{F}_g(\Omega_{..})) (r_{it+1} - \bar{r}_{i.} - \bar{r}_{.t} - \bar{r}_{..})}{\sum_i \sum_t (F_g(\Omega_{it}) - \bar{F}_g(\Omega_{i.}) - \bar{F}_g(\Omega_{.t}) - \bar{F}_g(\Omega_{..})) (F_g(\Omega_{it}) - \bar{F}_g(\Omega_{i.}) - \bar{F}_g(\Omega_{.t}) - \bar{F}_g(\Omega_{..}))'} \\ \hat{\delta} = \bar{r}_{..} - \hat{\beta}_{FE2} \bar{F}_g(\Omega_{..}) \\ \hat{\gamma}_i = (\bar{r}_{i.} - \bar{r}_{..}) - \hat{\beta}_{FE2} (\bar{F}_g(\Omega_{i.}) - \bar{F}_g(\Omega_{..})) \\ \hat{\gamma}_t = (\bar{r}_{.t} - \bar{r}_{..}) - \hat{\beta}_{FE2} (\bar{F}_g(\Omega_{.t}) - \bar{F}_g(\Omega_{..})) \end{cases}$$

Under the random effects model OLS estimators are no longer efficient and are replaced by feasible generalised least squares (FGLS) estimates, with LSDV residuals (Amemiya, 1971). It can be demonstrated (see Baltagi, 2008) that the GLS estimator for fixed effects may be written as a matrix weighted average of within and between estimators

<sup>6</sup>It can be demonstrated that, if fixed effects are components of the model, OLS in 4 is biased and inconsistent (Baltagi, 2008).

$$\widehat{\beta}_{RE1} = W_1 \widehat{\beta}_{within} + (1 - W_1) \widehat{\beta}_{between}$$

where  $W_1$  is a weighting matrix. For the two-way model the fixed effects estimator is a matrix weighted average of within, between individuals and between time-periods estimators

$$\widehat{\beta}_{RE2} = W_1 \widehat{\beta}_{within} + W_2 \widehat{\beta}_{bi} + (1 - W_1 - W_2) \widehat{\beta}_{bt}$$

Choosing between fixed and random effects is not easy. A test proposed by Hausman (1978) suggests to compare  $\widehat{\beta}_{RE1}$  with  $\widehat{\beta}_{within}$  because both of them are consistent under  $H_0 : E(\varepsilon_{it+1}|F(\Omega_{it})) = 0$  but diverge in probability limits when the null hypothesis does not hold. The Hausman test statistic is given by:

$$h = \left( \widehat{\beta}_{RE1} - \widehat{\beta}_{within} \right)' \left[ \text{var} \left( \widehat{\beta}_{RE1} - \widehat{\beta}_{within} \right) \right]^{-1} \left( \widehat{\beta}_{RE1} - \widehat{\beta}_{within} \right) \sim \chi_K^2 \quad (11)$$

The Hausman's test for the two-way model is more difficult to derive since, as demonstrated by Kang (1985), because of the presence of two between estimators the one-way Hausman test cannot be generalised. Therefore, Kang suggested to use five testable hypothesis:

1.  $\gamma_i$  is fixed and test  $E(\gamma_t|F(\Omega_{it})) = 0$  under  $\widehat{\beta}_{within} - \widehat{\beta}_{bt}$ .
2.  $\gamma_i$  is random and test  $E(\gamma_t|F(\Omega_{it})) = 0$  under  $\widehat{\beta}_{bt} - \widehat{\beta}_{RE2}$ .
3.  $\gamma_t$  is fixed and test  $E(\gamma_i|F(\Omega_{it})) = 0$  under  $\widehat{\beta}_{within} - \widehat{\beta}_{bi}$ .
4.  $\gamma_t$  is random and test  $E(\gamma_i|F(\Omega_{it})) = 0$  under  $\widehat{\beta}_{bi} - \widehat{\beta}_{RE2}$ .
5. both  $\gamma_i$  and  $\gamma_t$  are fixed compared to both  $\gamma_i$  and  $\gamma_t$  are random such that  $E(\gamma_i|F(\Omega_{it})) = E(\gamma_t|F(\Omega_{it})) = 0$  under  $\widehat{\beta}_{RE2} - \widehat{\beta}_{within}$ .

#### 4.2.3 Robust and Clustered Robust Standard Errors

Things become more complicated when the model assumes that the disturbances are heteroskedastic and auto-correlated. In this case we are facing another case where OLS standard errors may be biased and inefficient, unless they are adjusted for possible dependence. More precisely, there could be two types of dependences; in fact, the residuals may be either correlated across time for a given firm or the daily residuals may be correlated across firms. Furthermore, we may also want to consider the existence of these two forms of dependency together. In the model I assume that both  $\gamma$  and  $\eta$  are independent of each other and that disturbances are correlated across observations of the same firm, but are independent across firms



$$\text{corr}(\varepsilon_{it}, \varepsilon_{js}) = \begin{cases} 1 & \text{for } i = j \text{ and } t = s \\ \rho_\varepsilon = \frac{\sigma_\gamma^2}{\sigma_\varepsilon^2} & \text{for } i = j \text{ and } t \neq s \\ 0 & \forall i \neq j \end{cases} \quad (12)$$

The same result holds assuming that the panel data structure contains only time effects.

When we allow for the presence of correlation between firms over time we follow Petersen (2006) who assumes the presence of temporary firm effects, where the dependence between residuals may decay as the time between them increases:

$$\eta_{it} = \begin{cases} \varsigma_{it} & \text{if } t = 1 \\ \varkappa \eta_{it-1} + \sqrt{1 - \varkappa^2} \varsigma_{it} & \text{if } t > 1 \end{cases} \quad (13)$$

where  $\varkappa$  is the first-order autocorrelation between  $\eta_{it}$  and  $\eta_{it-1}$ . The correlation of lag length  $k$  is:

$$\begin{aligned} \text{Corr}(\varepsilon_{it}, \varepsilon_{it-k}) &= \frac{\text{Cov}(\gamma_i + \eta_{it}, \gamma_i + \eta_{it-k})}{\sqrt{\text{Var}(\gamma_i + \eta_{it}) \text{Var}(\gamma_i + \eta_{it-k})}} \\ &= \rho_\varepsilon + (1 - \rho_\varepsilon) \varkappa^k \end{aligned} \quad (14)$$

In the presence of heteroskedasticity in panel data the heteroskedasticity-robust (HR) covariance matrix estimator

$$\widehat{\Psi} = \frac{1}{nT - n - k} \sum_i \sum_t \widetilde{F(\Omega_{it})} \widetilde{F(\Omega_{it})}' \widehat{\varepsilon}_{it+1}^2 \quad (15)$$

$\left( \widetilde{F(\Omega_{it})} = F(\Omega_{it}) - T^{-1} \sum_s F(\Omega_{is}) \widetilde{\varepsilon}_{it+1} = \varepsilon_{it+1} - T^{-1} \sum_s \varepsilon_{it+1} \right)$  is consistent in cross-section regression (White, 1980) but inconsistent with fixed  $T$ , as demonstrated by Stock and Watson (2006) who suggested the following bias-adjusted cluster estimator

$$\widehat{\widehat{\Psi}} = \left( \frac{T-1}{T-2} \right) (\widehat{\Psi} - A) \quad (16)$$

with  $T > 2$ , where  $A := \frac{1}{(T-1)n} \sum_i \left( \frac{1}{T} \sum_t \widetilde{F(\Omega_{it})} \widetilde{F(\Omega_{it})}' \right) \frac{1}{T-1} \sum_s \widetilde{\varepsilon}_{is+1}$  measures the bias' magnitude. The correlation among disturbances is corrected by clustered standard errors, obtained by squaring the sum of  $F(\Omega_{it}) \varepsilon_{it+1}$

$$S^2(\beta) = \frac{N(NT-1) \sum_i \left( \sum_t F(\Omega_{it}) \varepsilon_{it+1} \right)^2}{(NT-k)(N-1) \left( \sum_i \sum_t F(\Omega_{it}) \varepsilon_{it+1} \right)^2}$$

To address these biases researchers have used different approaches (Petersen, 2006): fixed effects or within estimators, OLS with adjusted standard errors for correlation within a cluster, Newey-West procedure (Newey and West, 1987) modified for panel data, clustered standard errors (Arellano, 1987)<sup>7</sup>.

### 4.3 Results

[TABLES 1-7 ABOUT HERE]

Tables 1-6 show results of regressions. The first thing to notice is the high statistical significance of indicators. With **Rogers standard errors** we have 30 indicators statistically significant at 99% of the confidence interval, 11 at 95% and 5 at the 90%; only 29 indicators are not significant over this last threshold. Surprisingly enough we find the Bollinger%, the Chaikin Money Flows and the OBV oscillator indicators among the non-significant indicators. The surprise come from the fact that these indicators are among the most used indicators in technical analysis<sup>8</sup> and hardly analysts would say a linkage between these indicators and returns does not exist.

Once we move to consider the **two-way clustered robust standard errors** approach 27 indicators are statistically significant at 99% of the confidence interval, 6 at 95% and 6 at the 90%. On the whole, the total number of significant indicators is lower then the previous case, suggesting that probably the one-way approach underestimates the true standard errors. The number of statistical significant indicators raises again when we consider the **Newey - White** approach where 29 indicators are statistically significant at 99% of the confidence interval, 2 at 95% and 5 at the 90%. As for the panel data approaches we notice a sound increase in the number of significant indicators: well 48 indicators are significant at 99% of the confidence interval for **Fixed Effects** (31 for **Random Effects**), 1 at 95% (10 for Random Effects) and 2 at the 90% both for the Fixed and Random Effects. Columns 6 and 7 of table 4 report the results of the  $F$ -test, which tests the joint significance of firm effects, i.e.  $H_0 : \gamma_1 = \dots = \gamma_{N-1} = 0$ . Since the null hypothesis is rejected only in 22 cases, for all the others the state dummies cannot be considered jointly significant. This means that the OLS estimates which omit these state dummies do not suffer from an omission variables problem and coefficients are still unbiased and consistent. The absence of fixed effects can be read as a proof which goes against the fundamental analysis which affirms that idiosyncratic features of a firm drive market returns. Not surprisingly this happens because returns are observed on a daily base. The higher the frequency with whom data are observed, the lower the impact of firms' structure (i.e. size, management,...) on returns.

<sup>7</sup>Instead, as demonstrated by Stock and Watson (2006), the conventional heteroskedasticity-robust variance matrix estimator for cross-section regression applied to the fixed effects estimator for panel data with serially uncorrelated errors is inconsistent if the number of time periods is fixed.

<sup>8</sup>For example, Bollinger bands are considered as one of the most effective indicators. They consist of a middle band being an N-period simple moving average, an upper band at K times an N-period standard deviation above the middle band, a lower band at K times an N-period standard deviation below the middle band aim to provide a relative definition of high and low

The sign of coefficients is another interesting result to analyse. Table 7 shows the number of positive and negative beta coefficients amongst the statistically significant indicators for every approach I used. The number of positive beta coefficients is consistently higher than the number of negative betas, suggesting the existence of an asymmetry in the ability by technical indicators of capturing the upside and downside trends. As a consequence, it seems that predictions should be more easily carried out when financial markets are experiencing “good news” rather than “bad news”. As for the magnitude of the coefficient, results are not comparable amongst indicators, since each of them measures either different size (price, volume) or the same size but using different measurement scales. Therefore, we cannot say which indicators is more able to predict great changes in stock returns.

Finally, table 6 shows results of **bootstrap standard errors**. Bootstrap estimations were obtained by resampling observations (with replacement) from the data fifty times and using the variability in the slope coefficients as an estimate of their standard deviations. Since observations between firms could be correlated and then bootstrap standard errors are biased, I used the cluster option which draws clusters with replacement oppose observations with replacement.

## 5 Summary Conclusions

In this paper I performed a panel data analysis in order to demonstrate the validity of the technical analysis. By exploiting different hypothesis on the shape of the standard errors I run several regressions which clearly show the ability of some technical indicator in predicting the next day’s market returns. I demonstrated that this result is robust across approaches and gives a clear view on the relation between indicators and returns as for the magnitude and the sign. Of course this work wishes to be only the beginning of a new strend of research, which aims to demonstrate from a scientific point of view the validity of the technical analysis. This method, in my opinion, has wrongly been considered by disciples of the random walk hypothesis as a mere hand-crafted approach to finance. It would be interesting to extend the analysis to a broader time interval and to other indexes. I wish this could be done in future investigations.

## 6 List of Companies

1. BP PLC
2. HSBC Holdings PLC
3. Vodafone Group PLC
4. Royal Dutch Shell PLC
5. Rio Tinto PLC

6. GlaxoSmithKline
7. Anglo American PLC
8. BG Group PLC
9. BHP Billiton PLC
10. Royal Bank of Scotland Group PLC
11. AstraZeneca PLC
12. Xstrata PLC
13. Tesco PLC
14. British American Tobacco PLC
15. Diageo PLC
16. Standard Chartered PLC
17. Barclays PLC
18. Imperial Tobacco Group PLC
19. Unilever PLC
20. Lloyds TSB Group PLC
21. BAE Systems PLC
22. BT Group PLC
23. HBOS PLC
24. Aviva PLC
25. Prudential PLC
26. SABMiller PLC
27. British Energy Group PLC
28. WM Morrison Supermarkets PLC
29. Compass Group PLC
30. International Power PLC
31. Reed Elsevier PLC
32. British Sky Broadcasting Group PLC
33. Legal & General Group PLC

34. United Utilities PLC
35. WPP Group PLC
36. J Sainsbury PLC
37. Marks & Spencer Group PLC
38. Pearson PLC
39. Lonmin Plc
40. Old Mutual PLC

## **7 List of Financial Technical Indicators**

1. Acceleration
2. Acc/Dis
3. Advance Decline Line
4. Aroon Oscillator
5. Aroon Up
6. Avg.Chg.
7. Average Negative Change
8. Average Positive Change
9. Average True Range
10. Bollinger Band Down
11. Bollinger Band %
12. Bollinger Band Up
13. Bollinger Band Width
14. Breadth Advance/Decline
15. Chaikin A/D Osc.
16. Chaikin Money Flow
17. Chaikin Volatility
18. CMO
19. Cole's Rally Day

20. Cole's Reaction Day
21. Cutler's Relative Strenght Index
22. DEMA26
23. DEMA26 - MACD
24. DPO
25. DX
26. Ease Of Movement
27. Envelope
28. Exponential Moving Average
29. Exponential Moving Average Difference
30. Fosback's Unchanged Issues
31. Historical Volatility Indicator
32. Hughes Breadth Index
33. Lagged Exponential Moving Avgerage
34. Lagged Exponential Moving Avgerage Difference
35. Lagged Line Weighted Moving Avgerage
36. Lagged Line Weighted Moving Avgerage Difference
37. Lagged Moving Avgerage
38. Lagged Moving Average Difference
39. Lagged Value
40. Line Weighted Moving Averge
41. Line Weighted Moving Average Difference
42. MACD
43. McClellan Oscillator
44. McClellan Summ. Index
45. Momentum
46. Morris Daily Pressure
47. Morris Intraday Accumulator

48. Negative Changes Count
49. Negative Changes Sum
50. Nicoski Index
51. On Balance Volume - Raw
52. On Balance Volume Midpoint
53. On Balance Volume Oscillator
54. On Balance Volume with Average Volume
55. On Balance Volume
56. Positive and Negative Changes Counts Difference
57. PAIN
58. Price Volume Rank
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60. Qstick
61. TEMA26 - MACD
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64. Up Volatility - Down Volatility
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70. Volume Line Variation
71. Volume Oscillator Points
72. Volume Rating
73. Volume Reversal Alerts
74. Volume Weighted RSI - MFI
75. Williams %R
76. Wilder Relative Strenght Index

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	Coef.	Std.	t	P>t	[95% Conf.	Interval]
<i>const</i>	0.0005297	0.0001756	3.02	0.004***	0.0001746	0.0008849
<i>Acceleration</i>	1.075346	0.7918289	1.36	0.182	-0.5262787	2.676971
<i>const</i>	0.0004904	0.0001854	2.64	0.012**	0.0001154	0.0008655
<i>Acc/Dis</i>	2.83E-09	1.10E-08	0.26	0.799	-1.95E-08	2.51E-08
<i>const</i>	0.0002923	0.0001113	2.63	0.012**	0.0000671	0.0005174
<i>Advance Decline Line</i>	0.0003203	0.0000133	24.11	0***	0.0002935	0.0003472
<i>const</i>	0.000529	0.0001777	2.98	0.005***	0.0001695	0.0008884
<i>Aroon Osc.</i>	0.0000347	3.54E-06	9.82	0***	0.0000276	0.0000419
<i>const</i>	-0.0039998	0.0002698	-14.82	0***	-0.0045456	-0.003454
<i>Aroon Up</i>	0.0000893	6.69E-06	13.35	0***	0.0000758	0.0001028
<i>const</i>	0.0005507	0.0001867	2.95	0.005***	0.0001731	0.0009283
<i>Avg.Chg.</i>	3.58585	0.1975353	18.15	0***	3.186297	3.985403
<i>const</i>	0.0018695	0.0011802	1.58	0.121	-0.0005176	0.0042566
<i>Avg.Neg.Chg.</i>	0.0813393	0.0825059	0.99	0.33	-0.0855446	0.2482232
<i>const</i>	-0.0009225	0.0009958	-0.93	0.36	-0.0029367	0.0010917
<i>Avg.Pos.Chg.</i>	0.0951017	0.0674295	1.41	0.166	-0.0412874	0.2314907
<i>const</i>	-0.0010654	0.0010887	-0.98	0.334	-0.0032675	0.0011366
<i>Average True Range</i>	0.1006575	0.0709636	1.42	0.164	-0.04288	0.244195
<i>const</i>	0.0006324	0.0002075	3.05	0.004***	0.0002127	0.0010521
<i>Bollinger Band Down</i>	-7.00E-12	3.36E-12	-2.08	0.044**	-1.38E-11	-2.02E-13
<i>const</i>	0.0009915	0.0007235	1.37	0.178	-0.0004718	0.0024549
<i>Bollinger Band %</i>	0.0178414	0.0359242	0.5	0.622	-0.0548222	0.090505
<i>const</i>	-0.0252247	0.0017551	-14.37	0***	-0.0287747	-0.0216747
<i>Bollinger Band Up</i>	0.0005149	0.0000378	13.63	0***	0.0004385	0.0005913
<i>const</i>	-0.0014273	0.0008194	-1.74	0.089*	-0.0030846	0.0002301
<i>Bollinger Band Width</i>	0.0755761	0.0328472	2.3	0.027**	0.0091364	0.1420158
<i>const</i>	0.0005498	0.0001829	3.01	0.005***	0.0001798	0.0009198
<i>Breadth Adv./Decl.</i>	1.35E-10	4.51E-10	0.3	0.767	-7.77E-10	1.05E-09
<i>const</i>	0.3804438	0.0615228	6.18	0***	0.2560023	0.5048853
<i>Chaikin A/D Osc.</i>	-0.7602834	0.1231657	-6.17	0***	-1.00941	-0.5111573
<i>const</i>	0.0005844	0.0001781	3.28	0.002***	0.0002241	0.0009446
<i>Chaikin Money Flow</i>	-5.48E-07	3.02E-06	-0.18	0.857	-6.65E-06	5.55E-06

<i>const</i>	0.0024243	0.0007251	3.34	0.002***	0.0009576	0.003891
<i>Chaikin Volatility</i>	-0.0020208	0.0009095	-2.22	0.032**	-0.0038605	-0.0001811
<i>const</i>	0.0005599	0.0001903	2.94	0.005***	0.000175	0.0009448
<i>CMO</i>	-2.59E-09	2.62E-11	-98.94	0***	-2.64E-09	-2.54E-09
<i>const</i>	0.0002214	0.0001233	1.8	0.08*	-0.0000279	0.0004707
<i>Cole's Rally Day</i>	0.0008224	0.0003284	2.5	0.017**	0.0001581	0.0014867
<i>const</i>	0.0034528	0.0004083	8.46	0***	0.002627	0.0042786
<i>Cole's Reaction Day</i>	-0.0126768	0.0011769	-10.77	0***	-0.0150574	-0.0102963
<i>const</i>	-0.0037664	0.0002664	-14.14	0***	-0.0043053	-0.0032276
<i>Cutler's RSI</i>	0.0176938	0.0015466	11.44	0***	0.0145656	0.020822
<i>const</i>	-0.0585672	0.011054	-5.3	0***	-0.080926	-0.0362084
<i>DEMA26</i>	0.0011874	0.0002131	5.57	0***	0.0007564	0.0016183
<i>const</i>	0.0004354	0.0001726	2.52	0.016**	0.0000862	0.0007846
<i>DEMA26 - MACD</i>	0.1852596	0.1158241	1.6	0.118	-0.0490167	0.4195359
<i>const</i>	0.0006072	0.0001956	3.1	0.004***	0.0002116	0.0010029
<i>DPO</i>	0.1570658	0.1066806	1.47	0.149	-0.0587161	0.3728477
<i>const</i>	0.0005547	0.0001804	3.08	0.004***	0.0001898	0.0009197
<i>DX</i>	0.9767822	0.007687	127.07	0***	0.9612339	0.9923306
<i>const</i>	dropped					
<i>Ease Of Movement</i>						
<i>const</i>	0.000564	0.0001842	3.06	0.004**	0.0001914	0.0009366
<i>Envelope</i>	9.58E-23	1.48E-23	6.46	0***	6.58E-23	1.26E-22
<i>const</i>	0.000536	0.0001776	3.02	0.004***	0.0001767	0.0008953
<i>Exp.Mov.Avg.</i>	0.0101905	0.0055255	1.84	0.073*	-0.0009859	0.021367
<i>const</i>	0.0001446	0.0001228	1.18	0.246	-0.0001038	0.000393
<i>Exp.Mov.Avg.Diff.</i>	0.622501	0.2943407	2.11	0.041**	0.0271407	1.217861
<i>const</i>	0.0006166	0.0002085	2.96	0.005***	0.0001949	0.0010383
<i>Fosback's Unchanged Issues</i>	0.8349874	0.5596752	1.49	0.144	-0.2970626	1.967037
<i>const</i>	0.003101	0.0004636	6.69	0***	0.0021633	0.0040387
<i>Historical Volatility Indicator</i>	-0.0026477	0.0004049	-6.54	0***	-0.0034668	-0.0018286
<i>const</i>	0.0006125	0.0002383	2.57	0.014**	0.0001305	0.0010945
<i>Hughes Breadth Idx.</i>	-1.101912	0.0531366	-20.74	0***	-1.209391	-0.9944327
<i>const</i>	dropped					
<i>Lag.Exp.Mov.Avg.</i>						
<i>const</i>	0.0005485	0.0001807	3.04	0.004***	0.0001831	0.0009139

<i>Lag.Exp.Mov.Avg.Diff.</i>	-0.0005553	0.0001552	-3.58	0.001***	-0.0008692	-0.0002413
<i>const</i>	0.0006084	0.0002386	2.55	0.015**	0.0001257	0.0010911
<i>Lag.Line Weighted Mov.Avg.</i>	-1.104059	0.0530986	-20.79	0***	-1.211461	-0.996657
<i>const</i>	0.0005478	0.0001804	3.04	0.004***	0.0001829	0.0009127
<i>Lag.Line Weighted Mov.Avg.Diff.</i>	-0.0002192	0.0001233	-1.78	0.083*	-0.0004686	0.0000301
<i>const</i>	0.0005427	0.0001755	3.09	0.004***	0.0001878	0.0008977
<i>Lag.Mov.Avg.</i>	-1.194365	0.0446103	-26.77	0***	-1.284598	-1.104132
<i>const</i>	0.0005482	0.0001806	3.04	0.004***	0.000183	0.0009135
<i>Lag.Mov.Avg.Diff.</i>	-0.0004274	0.000141	-3.03	0.004***	-0.0007125	-0.0001423
<i>const</i>	0.0005881	0.0001852	3.18	0.003***	0.0002135	0.0009627
<i>Lag.Value</i>	-1.097134	0.0559717	-19.6	0***	-1.210347	-0.9839202
<i>const</i>	0.0005475	0.0001799	3.04	0.004***	0.0001835	0.0009115
<i>Line Weighted Mov.Avg.</i>	-0.0001012	0.0000987	-1.03	0.311	-0.0003008	0.0000984
<i>const</i>	-0.0000458	0.0001052	-0.44	0.665	-0.0002586	0.000167
<i>Line Weighted Mov.Avg.Diff.</i>	1.354227	0.1152879	11.75	0***	1.121036	1.587419
<i>const</i>	0.0005293	0.0001592	3.32	0.002***	0.0002072	0.0008514
<i>MACD</i>	6.285568	1.157156	5.43	0***	3.944999	8.626138
<i>const</i>	0.0006453	0.000223	2.89	0.006***	0.0001942	0.0010964
<i>McClellan Osc.</i>	0.2267848	0.1248909	1.82	0.077*	-0.025831	0.4794006
<i>const</i>	0.0006316	0.0002247	2.81	0.008***	0.0001771	0.0010862
<i>McClellan Summ. Idx.</i>	0.2084971	0.0935682	2.23	0.032**	0.0192376	0.3977567
<i>const</i>	0.0005669	0.0001876	3.02	0.004***	0.0001873	0.0009464
<i>Momentum</i>	-0.0002534	0.0002527	-1	0.322	-0.0007645	0.0002577
<i>const</i>	0.0005583	0.0001821	3.07	0.004***	0.0001899	0.0009267
<i>Morris Daily Pressure</i>	1.44E-06	1.59E-06	0.9	0.372	-1.78E-06	4.66E-06
<i>const</i>	0.0040727	0.0013494	3.02	0.004***	0.0013433	0.0068021
<i>Morris Intraday Accumulator</i>	-0.0073053	0.0030713	-2.38	0.022**	-0.0135176	-0.001093
<i>const</i>	0.000546	0.0002562	2.13	0.039**	0.0000277	0.0010643
<i>Neg.Chgs.Count</i>	-7.89E+18	7.77E+16	-0.01	0.992	-1.58E+01	1.56E+15
<i>const</i>	0.0171207	0.0013058	13.11	0***	0.0144794	0.019762
<i>Neg.Chgs.Sum</i>	-0.003785	0.0003111	-12.17	0***	-0.0044142	-0.0031557
<i>const</i>	0.0036242	0.0012341	2.94	0.006***	0.0011279	0.0061205
<i>Nicoski Idx.</i>	0.0446892	0.0219797	2.03	0.049**	0.0002311	0.0891474
<i>const</i>	0.2481347	0.0266083	9.33	0***	0.1943145	0.301955
<i>OBV - Raw</i>	-0.2502639	0.0269283	-9.29	0***	-0.3047316	-0.1957962

<i>const</i>	0.0001727	0.0001413	1.22	0.229	-0.0001132	0.0004585
<i>OBV Midpoint</i>	1.33E-06	5.67E-07	2.35	0.024**	1.84E-07	2.48E-06
<i>const</i>	0.0004522	0.000182	2.48	0.017**	0.0000841	0.0008203
<i>OBV Oscillator</i>	8.78E-09	2.22E-08	0.39	0.695	-3.62E-08	5.38E-08
<i>const</i>	0.0002292	0.0002329	0.98	0.331	-0.000242	0.0007004
<i>OBV with Average Volume</i>	-0.0001289	0.0000158	-8.16	0***	-0.0001609	-0.000097
<i>const</i>	0.0005602	0.000184	3.04	0.004***	0.0001879	0.0009325
<i>OBV</i>	-0.0516661	0.0184048	-2.81	0.008***	-0.0888933	-0.0144389
<i>const</i>	0.0001727	0.0001413	1.22	0.229	-0.0001132	0.0004585
<i>Pos.&amp;Neg.Chgs.Counts Diff.</i>	1.33E-06	5.67E-07	2.35	0.024**	1.84E-07	2.48E-06
<i>const</i>	0.0003503	0.0001939	1.81	0.079*	-0.0000419	0.0007426
<i>PAIN</i>	0.0021278	0.0001376	15.46	0***	0.0018495	0.0024061
<i>const</i>	0.0006747	0.0002426	2.78	0.008***	0.0001841	0.0011653
<i>Price Volume Rank</i>	2.08E-11	1.60E-11	1.3	0.201	-1.15E-11	5.31E-11
<i>const</i>	dropped					
<i>Price Vol.Trend</i>						
<i>const</i>	0.0000716	0.0003369	0.21	0.833	-0.00061	0.0007531
<i>Qstick</i>	-2.29E-08	2.20E-08	-1.04	0.305	-6.73E-08	2.16E-08
<i>const</i>	0.0009281	0.0003593	2.58	0.014**	0.0002013	0.0016548
<i>TEMA26 - MACD</i>	5.87E-07	3.35E-07	1.75	0.088*	-9.12E-08	1.26E-06
<i>const</i>	0.0005564	0.0001934	2.88	0.006***	0.0001653	0.0009475
<i>Tomas Demark -max</i>	0.1993881	0.1354189	1.47	0.149	-0.0745226	0.4732987
<i>const</i>	0.0008832	0.0003601	2.45	0.019**	0.0001548	0.0016116
<i>Tomas Demark -min</i>	-1.03E+06	6.65E+07	-1.54	0.131	-2.37E+06	3.19E+07
<i>const</i>	0.0006836	0.0001895	3.61	0.001***	0.0003004	0.0010669
<i>Up Volatility - Down Volatility</i>	-1.11E+11	6.33E+12	-1.76	0.087*	-2.39E+11	1.68E+12
<i>const</i>	0.0006363	0.0002054	3.1	0.004***	0.0002207	0.0010518
<i>Up/Down Volume</i>	7.30E-12	3.32E-12	2.2	0.034**	5.86E-13	1.40E-11
<i>const</i>	-0.0101132	0.0011969	-8.45	0***	-0.0125342	-0.0076922
<i>Velocity</i>	0.0102894	0.0012099	8.5	0***	0.0078421	0.0127368
<i>const</i>	0.0006234	0.0001772	3.52	0.001***	0.000265	0.0009818
<i>Volatility</i>	4.200094	0.2588185	16.23	0***	3.676584	4.723604
<i>const</i>	-0.0001251	0.0004036	-0.31	0.758	-0.0009414	0.0006913
<i>Volume % +/- Average</i>	-5.92E+06	4.41E+06	-1.34	0.187	-0.0000149	3.01E+06

<i>const</i>	dropped					
<i>Volume &amp; Price Accumulator</i>						
<i>const</i>	0.0004173	0.0001874	2.23	0.032**	0.0000382	0.0007964
<i>Volume Line Variation</i>	-6.04E-09	1.23E-08	-0.49	0.626	-3.09E-08	1.88E-08
<i>const</i>	dropped					
<i>Vol. Osc. Points</i>						
<i>const</i>	0.0004138	0.0001843	2.25	0.03**	0.0000411	0.0007866
<i>Volume Rating</i>	6.65E-06	0.0000138	0.48	0.634	-0.0000214	0.0000346
<i>const</i>	dropped					
<i>Volume Reversal Alerts</i>						
<i>const</i>	0.0005444	0.00018	3.03	0.004***	0.0001804	0.0009085
<i>Volume Weighted RSI - MFI</i>	9.46E-08	6.81E-09	13.89	0***	8.08E-08	1.08E-07
<i>const</i>	-0.0000338	0.0001601	-0.21	0.834	-0.0003576	0.00029
<i>Williams %R</i>	-0.0000198	3.00E-06	-6.57	0***	-0.0000258	-0.0000137
<i>const</i>	-0.1837637	0.0158907	-11.56	0***	-0.2159058	-0.1516217
<i>Wilder RSI</i>	0.0036869	0.000321	11.49	0***	0.0030376	0.0043361

**Table 1. OLS Regressions with Clustered (Rogers) Standard Errors – One dimension**

This table reports White Standard Errors which are robust to within cluster correlation. The database was clustered by firm. (\*\*\*) significant at the 99% C.I.; (\*\*) significant at the 95% C. I.; (\*) significant at the 90% C.I.

	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
<i>const</i>	0.0005297	0.0004252	1.25	0.213	-0.0003037	0.0013631
<i>Acceleration</i>	1.075346	0.79529	1.35	0.176	-0.4835735	2.634266
<i>const</i>	0.0004904	0.0004403	1.11	0.265	-0.0003727	0.0013535
<i>Acc/Dis</i>	2.83E-09	1.26E-08	0.22	0.822	-2.18E-08	2.75E-08
<i>const</i>	0.0002923	0.0004139	0.71	0.48	-0.000519	0.0011036
<i>Advance Decline Line</i>	0.0003203	0.0000258	12.41	0***	0.0002697	0.0003709
<i>const</i>	0.000529	0.0004315	1.23	0.22	-0.0003168	0.0013748
<i>Aroon Osc.</i>	0.0000347	6.56E-06	5.29	0***	0.0000219	0.0000476
<i>const</i>	-0.0039998	0.0004749	-8.42	0***	-0.0049308	-0.0030689
<i>Aroon Up</i>	0.0000893	9.21E-06	9.69	0***	0.0000712	0.0001074
<i>const</i>	0.0005507	0.0003863	1.43	0.154	-0.0002065	0.001308
<i>Avg. Chg.</i>	3.58585	0.1903448	18.84	0***	3.212738	3.958962

<i>const</i>	0.0018695	0.0012246	1.53	0.127	-0.000531	0.00427
<i>Avg.Neg.Chg.</i>	0.0813393	0.0831953	0.98	0.328	-0.0817393	0.2444179
<i>const</i>	-0.0009225	0.0010533	-0.88	0.381	-0.0029872	0.0011422
<i>Avg.Pos.Chg.</i>	0.0951017	0.0674215	1.41	0.158	-0.0370573	0.2272606
<i>const</i>	-0.0010654	0.0011393	-0.94	0.35	-0.0032988	0.0011679
<i>Average True Range</i>	0.1006575	0.070953	1.42	0.156	-0.038424	0.2397389
<i>const</i>	0.0006324	0.0004344	1.46	0.145	-0.0002191	0.0014839
<i>Bollinger Band Down</i>	-7.00E+12	3.82E+13	-18.33	0***	-7.75E+12	-6.25E+12
<i>const</i>	0.0009915	0.0008093	1.23	0.221	-0.0005949	0.002578
<i>Bollinger Band %</i>	0.0178414	0.0363793	0.49	0.624	-0.0534689	0.0891517
<i>const</i>	-0.0252247	0.0017953	-14.05	0***	-0.0287438	-0.0217056
<i>Bollinger Band Up</i>	0.0005149	0.0000383	13.45	0***	0.0004399	0.0005899
<i>const</i>	-0.0014273	0.0008984	-1.59	0.112	-0.0031884	0.0003338
<i>Bollinger Band Width</i>	0.0755761	0.0331313	2.28	0.023	0.0106325	0.1405197
<i>const</i>	0.0005498	0.0004334	1.27	0.205	-0.0002997	0.0013994
<i>Breadth Adv./Decl.</i>	1.35E-10	4.63E-10	0.29	0.772	-7.73E-10	1.04E-09
<i>const</i>	0.3804438	0.056566	6.73	0***	0.2695637	0.4913239
<i>Chaikin A/D Osc.</i>	-0.7602834	0.1131588	-6.72	0***	-0.9820962	-0.5384706
<i>const</i>	0.0005844	0.0004268	1.37	0.171	-0.0002522	0.0014209
<i>Chaikin Money Flow</i>	-5.48E+07	3.64E+06	-0.15	0.88	-7.69E+06	6.60E+06
<i>const</i>	0.0024243	0.0012565	1.93	0.054*	-0.0000386	0.0048873
<i>Chaikin Volatility</i>	-0.0020208	0.0014643	-1.38	0.168	-0.0048911	0.0008495
<i>const</i>	0.0005599	0.0004347	1.29	0.198	-0.0002921	0.0014119
<i>CMO</i>	-2.59E+09	9.42E+11	-27.51	0***	-2.78E+09	-2.41E+09
<i>const</i>	0.0002214	0.0003207	0.69	0.49	-0.0004071	0.00085
<i>Cole's Rally Day</i>	0.0008224	0.0003286	2.5	0.012**	0.0001782	0.0014666
<i>const</i>	0.0034528	0.0005728	6.03	0***	0.0023299	0.0045757
<i>Cole's Reaction Day</i>	-0.0126768	0.0012299	-10.31	0***	-0.0150876	-0.010266
<i>const</i>	-0.0037664	0.000471	-8	0***	-0.0046897	-0.0028431
<i>Cutler's RSI</i>	0.0176938	0.0016008	11.05	0***	0.0145559	0.0208317
<i>const</i>	-0.0585672	0.0111503	-5.25	0***	-0.0804239	-0.0367106
<i>DEMA26</i>	0.0011874	0.0002149	5.52	0***	0.000766	0.0016087
<i>const</i>	0.0004354	0.0004237	1.03	0.304	-0.0003951	0.0012659
<i>DEMA26 - MACD</i>	0.1852596	0.1162421	1.59	0.111	-0.0425972	0.4131163
<i>const</i>	0.0006072	0.0004323	1.4	0.16	-0.0002401	0.0014546

<i>DPO</i>	0.1570658	0.1069325	1.47	0.142	-0.0525423	0.3666739
<i>const</i>	0.0005547	0.0001915	2.9	0.004***	0.0001794	0.0009301
<i>DX</i>	0.9767822	0.0077773	125.59	0***	0.9615372	0.9920272
<i>const</i>	dropped					
<i>Ease Of Movement</i>						
<i>const</i>	dropped					
<i>Envelope</i>						
<i>const</i>	0.000536	0.0004317	1.24	0.214	-0.0003102	0.0013822
<i>Exp.Mov.Avg.</i>	0.0101905	0.0056281	1.81	0.07*	-0.0008416	0.0212227
<i>const</i>	0.0001446	0.0003874	0.37	0.709	-0.0006148	0.000904
<i>Exp.Mov.Avg.Diff.</i>	0.622501	0.2955005	2.11	0.035**	0.0432639	1.201738
<i>const</i>	0.0006166	0.0004417	1.4	0.163	-0.0002492	0.0014824
<i>Fosback's Unchanged Issues</i>	0.8349874	0.5600322	1.49	0.136	-0.2627824	1.932757
<i>const</i>	0.003101	0.0018482	1.68	0.093*	-0.0005219	0.006724
<i>Historical Volatility Indicator</i>	-0.0026477	0.0018781	-1.41	0.159	-0.0063292	0.0010337
<i>const</i>	0.0006125	0.0003504	1.75	0.08*	-0.0000743	0.0012992
<i>Hughes Breadth Idx.</i>	-1.101912	0.055211	-19.96	0***	-1.210136	-0.9936875
<i>const</i>	dropped					
<i>Lag.Exp.Mov.Avg.</i>						
<i>const</i>	0.0005485	0.0004309	1.27	0.203	-0.0002961	0.0013931
<i>Lag.Exp.Mov.Avg.Diff.</i>	-0.0005553	0.0003174	-1.75	0.08*	-0.0011773	0.0000668
<i>const</i>	0.0006084	0.0003504	1.74	0.083*	-0.0000784	0.0012952
<i>Lag.Line Weighted Mov.Avg.</i>	-1.104059	0.0552311	-19.99	0***	-1.212323	-0.9957957
<i>const</i>	0.0005478	0.0004306	1.27	0.203	-0.0002964	0.0013919
<i>Lag.Line Weighted Mov.Avg.Diff.</i>	-0.0002192	0.0002198	-1	0.319	-0.0006501	0.0002117
<i>const</i>	0.0005427	0.0003543	1.53	0.126	-0.0001517	0.0012371
<i>Lag.Mov.Avg.</i>	-1.194365	0.0474918	-25.15	0***	-1.287458	-1.101272
<i>const</i>	0.0005482	0.0004307	1.27	0.203	-0.0002961	0.0013926
<i>Lag.Mov.Avg.Diff.</i>	-0.0004274	0.0002386	-1.79	0.073*	-0.000895	0.0000403
<i>const</i>	0.0005881	0.0003969	1.48	0.138	-0.0001899	0.0013662
<i>Lag.Value</i>	-1.097134	0.0524855	-20.9	0***	-1.200015	-0.9942521
<i>const</i>	0.0005475	0.0004303	1.27	0.203	-0.000296	0.0013911
<i>Line Weighted Mov.Avg.</i>	-0.0001012	0.0001515	-0.67	0.504	-0.0003982	0.0001958
<i>const</i>	-0.0000458	0.0003598	-0.13	0.899	-0.0007512	0.0006595
<i>Line Weighted Mov.Avg.Diff.</i>	1.354227	0.1169517	11.58	0***	1.12498	1.583475



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<i>const</i>	0.0005293	0.0004218	1.25	0.21	-0.0002975	0.0013561
<i>MACD</i>	6.285568	1.141944	5.5	0***	4.047141	8.523996
<i>const</i>	0.0006453	0.0004487	1.44	0.15	-0.0002342	0.0015248
<i>McClellan Osc.</i>	0.2267848	0.1248056	1.82	0.069*	-0.017858	0.4714276
<i>const</i>	0.0006316	0.0004498	1.4	0.16	-0.0002501	0.0015134
<i>McClellan Summ. Idx.</i>	0.2084971	0.0933249	2.23	0.025**	0.0255626	0.3914317
<i>const</i>	0.0005669	0.0004426	1.28	0.2	-0.0003008	0.0014345
<i>Momentum</i>	-0.0002534	0.0002548	-0.99	0.32	-0.0007527	0.000246
<i>const</i>	0.0005583	0.0004315	1.29	0.196	-0.0002875	0.001404
<i>Morris Daily Pressure</i>	1.44E-06	1.62E-06	0.89	0.375	-1.74E-06	4.62E-06
<i>const</i>	0.0040727	0.0023286	1.75	0.08*	-0.0004919	0.0086373
<i>Morris Intraday Accumulator</i>	-0.0073053	0.0051468	-1.42	0.156	-0.0173941	0.0027835
<i>const</i>	0.000546	0.0004577	1.19	0.233	-0.0003512	0.0014432
<i>Neg.Chgs.Count</i>	-7.89E-18	1.00E+15	-0.01	0.994	-1.97E+15	1.96E+15
<i>const</i>	0.0171207	0.0014573	11.75	0***	0.0142641	0.0199773
<i>Neg.Chgs.Sum</i>	-0.003785	0.0003409	-11.1	0***	-0.0044532	-0.0031168
<i>const</i>	0.0036242	0.0012835	2.82	0.005***	0.0011083	0.0061401
<i>Nicoski Idx.</i>	0.0446892	0.0221531	2.02	0.044**	0.0012649	0.0881135
<i>const</i>	0.2481347	0.0256319	9.68	0***	0.1978913	0.2983782
<i>OBV - Raw</i>	-0.2502639	0.0259468	-9.65	0***	-0.3011246	-0.1994033
<i>const</i>	0.0001727	0.0004259	0.41	0.685	-0.0006621	0.0010074
<i>OBV Midpoint</i>	1.33E-06	5.38E-07	2.48	0.013**	2.77E-07	2.38E-06
<i>const</i>	0.0004522	0.0004383	1.03	0.302	-0.0004068	0.0013113
<i>OBV Oscillator</i>	8.78E-09	2.49E-08	0.35	0.725	-4.01E-08	5.76E-08
<i>const</i>	0.0002292	0.0004192	0.55	0.585	-0.0005925	0.0010509
<i>OBV with Average Volume</i>	-0.0001289	0.000016	-8.04	0***	-0.0001604	-0.0000975
<i>const</i>	dropped					
<i>OBV</i>						
<i>const</i>	0.0001727	0.0004259	0.41	0.685	-0.0006621	0.0010074
<i>Pos.&amp;Neg.Chgs.Counts Diff.</i>	1.33E-06	5.38E-07	2.48	0.013**	2.77E-07	2.38E-06
<i>const</i>	0.0003503	0.0004034	0.87	0.385	-0.0004404	0.0011411
<i>PAIN</i>	0.0021278	0.000154	13.81	0***	0.0018259	0.0024297
<i>const</i>	0.0006747	0.0004516	1.49	0.135	-0.0002105	0.0015599
<i>Price Volume Rank</i>	2.08E-11	1.55E-11	1.34	0.179	-9.55E-12	5.11E-11

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<i>const</i>	dropped					
<i>Price Vol.Trend</i>						
<i>const</i>	0.0000716	0.0005299	0.14	0.893	-0.0009672	0.0011103
<i>Qstick</i>	-2.29E+08	2.25E+08	-1.02	0.309	-6.69E+08	2.12E+08
<i>const</i>	0.0009281	0.0005326	1.74	0.081*	-0.000116	0.0019722
<i>TEMA26 - MACD</i>	5.87E-07	3.24E-07	1.81	0.07*	-4.81E-08	1.22E-06
<i>const</i>	0.0005564	0.0004266	1.3	0.192	-0.0002799	0.0013927
<i>Tomas Demark -max</i>	0.1993881	0.1357753	1.47	0.142	-0.0667575	0.4655336
<i>const</i>	0.0008832	0.0005329	1.66	0.097*	-0.0001613	0.0019277
<i>Tomas Demark -min</i>	-1.03E-06	6.41E-07	-1.6	0.11	-2.28E-06	2.31E-07
<i>const</i>	0.0006836	0.0004078	1.68	0.094*	-0.0001158	0.001483
<i>Up Volatility - Down Volatility</i>	-1.11E-11	5.74E-12	-1.94	0.053*	-2.24E-11	1.25E-13
<i>const</i>	0.0006363	0.0004328	1.47	0.142	-0.0002121	0.0014846
<i>Up/Down Volume</i>	7.30E-12	3.01E-13	24.22	0***	6.71E-12	7.89E-12
<i>const</i>	-0.0101132	0.0013648	-7.41	0***	-0.0127885	-0.0074379
<i>Velocity</i>	0.0102894	0.0013157	7.82	0***	0.0077104	0.0128685
<i>const</i>	0.0006234	0.0003919	1.59	0.112	-0.0001447	0.0013916
<i>Volatility</i>	4.200094	0.2587253	16.23	0***	3.692943	4.707245
<i>const</i>	-0.0001251	0.0005953	-0.21	0.834	-0.0012919	0.0010418
<i>Volume % +/- Average</i>	-5.92E-06	4.51E-06	-1.31	0.19	-0.0000148	2.93E-06
<i>const</i>	dropped					
<i>Volume &amp; Price Accumulator</i>						
<i>const</i>	0.0004173	0.0004411	0.95	0.344	-0.0004473	0.001282
<i>Volume Line Variation</i>	-6.04E-09	1.34E-08	-0.45	0.652	-3.23E-08	2.02E-08
<i>const</i>	dropped					
<i>Vol.Osc. Points</i>						
<i>const</i>	0.0004138	0.0004525	0.91	0.36	-0.0004732	0.0013008
<i>Volume Rating</i>	6.65E-06	0.0000146	0.45	0.65	-0.000022	0.0000353
<i>const</i>	dropped					
<i>Volume Reversal Alerts</i>						
<i>const</i>	0.0005444	0.0004302	1.27	0.206	-0.0002987	0.0013876
<i>Volume Weighted RSI - MFI</i>	9.46E-08	8.67E-09	10.92	0***	7.76E-08	1.12E-07
<i>const</i>	-0.0000338	0.0005037	-0.07	0.946	-0.0010211	0.0009535
<i>Williams %R</i>	-0.0000198	8.58E-06	-2.3	0.021**	-0.0000366	-2.94E-06
<i>const</i>	-0.1837637	0.0159928	-11.49	0***	-0.2151126	-0.1524149

<i>Wilder RSI</i>	0.0036869	0.000323	11.42	0***	0.0030538	0.00432
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**Table 2. OLS regressions with Clustered Standard Errors – Two dimensions**

The database was clustered by firm and day. This procedure allows for correlations among different firms in the same day and different days in the same firms. (\*\*\*) significant at the 99% C.I.; (\*\*) significant at the 95% C. I.; (\*) significant at the 90% C.I.

	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
<i>const</i>	0.0005297	0.0001574	3.37	0.001***	0.0002213	0.0008382
<i>Acceleration</i>	1.075346	1.036948	1.04	0.3	-0.9572682	3.107961
<i>const</i>	0.0004904	0.0002413	2.03	0.042**	0.0000175	0.0009633
<i>Acc/Dis</i>	2.83E-09	1.17E-08	0.24	0.81	-2.02E-08	2.58E-08
<i>const</i>	0.0002923	0.0001431	2.04	0.041**	0.0000118	0.0005728
<i>Advance Decline Line</i>	0.0003203	0.0001733	1.85	0.065*	-0.0000193	0.0006599
<i>const</i>	0.000529	0.0001572	3.37	0.001***	0.0002209	0.0008371
<i>Aroon Osc.</i>	0.0000347	4.35E-06	7.99	0***	0.0000262	0.0000432
<i>const</i>	-0.0039998	0.000299	-13.38	0***	-0.004586	-0.0034137
<i>Aroon Up</i>	0.0000893	6.60E-06	13.53	0***	0.0000764	0.0001022
<i>const</i>	0.0005507	0.0001405	3.92	0***	0.0002752	0.0008262
<i>Avg. Chg.</i>	3.58585	0.7100806	5.05	0***	2.193957	4.977743
<i>const</i>	0.0018695	0.0010115	1.85	0.065*	-0.0001133	0.0038523
<i>Avg. Neg. Chg.</i>	0.0813393	0.0655701	1.24	0.215	-0.0471905	0.2098691
<i>const</i>	-0.0009225	0.0010307	-0.9	0.371	-0.0029429	0.0010979
<i>Avg. Pos. Chg.</i>	0.0951017	0.0710304	1.34	0.181	-0.0441315	0.2343349
<i>const</i>	-0.0010654	0.0011503	-0.93	0.354	-0.0033203	0.0011894
<i>Average True Range</i>	0.1006575	0.0760336	1.32	0.186	-0.0483829	0.2496978
<i>const</i>	0.0006324	0.0001793	3.53	0***	0.000281	0.0009838
<i>Bollinger Band Down</i>	-7.00E-12	6.24E-12	-1.12	0.262	-1.92E-11	5.23E-12
<i>const</i>	0.0009915	0.0009136	1.09	0.278	-0.0007992	0.0027823
<i>Bollinger Band %</i>	0.0178414	0.0402708	0.44	0.658	-0.061097	0.0967799
<i>const</i>	-0.0252247	0.000801	-31.49	0***	-0.0267947	-0.0236547
<i>Bollinger Band Up</i>	0.0005149	0.0000163	31.62	0***	0.000483	0.0005468
<i>const</i>	-0.0014273	0.0011331	-1.26	0.208	-0.0036484	0.0007938
<i>Bollinger Band Width</i>	0.0755761	0.0463325	1.63	0.103	-0.0152445	0.1663967
<i>const</i>	0.0005498	0.00016	3.44	0.001***	0.0002361	0.0008635
<i>Breadth Adv./Decl.</i>	1.35E-10	4.88E-10	0.28	0.783	-8.21E-10	1.09E-09

<i>const</i>	0.3804438	0.2026753	1.88	0.061*	-0.0168384	0.777726
<i>Chaikin A/D Osc.</i>	-0.7602834	0.405482	-1.88	0.061*	-1.555105	0.0345385
<i>const</i>	0.0005844	0.0002195	2.66	0.008***	0.0001541	0.0010146
<i>Chaikin Money Flow</i>	-5.48E-07	3.32E-06	-0.17	0.869	-7.06E-06	5.97E-06
<i>const</i>	0.0024243	0.0006442	3.76	0***	0.0011616	0.003687
<i>Chaikin Volatility</i>	-0.0020208	0.0006933	-2.91	0.004***	-0.0033798	-0.0006618
<i>const</i>	0.0005599	0.0001593	3.51	0***	0.0002476	0.0008722
<i>CMO</i>	-2.59E-09	3.91E-10	-6.63	0***	-3.36E-09	-1.83E-09
<i>const</i>	0.0002214	0.0001614	1.37	0.17	-0.0000949	0.0005378
<i>Cole's Rally Day</i>	0.0008224	0.0001935	4.25	0***	0.0004431	0.0012018
<i>const</i>	0.0034528	0.0002256	15.3	0***	0.0030105	0.0038951
<i>Cole's Reaction Day</i>	-0.0126768	0.0004849	-26.14	0***	-0.0136273	-0.011726
<i>const</i>	-0.0037664	0.0001822	-20.67	0***	-0.0041235	-0.0034093
<i>Cutler's RSI</i>	0.0176938	0.0006502	27.21	0***	0.0164192	0.0189684
<i>const</i>	-0.0585672	0.0072135	-8.12	0***	-0.0727071	-0.0444274
<i>DEMA26</i>	0.0011874	0.0001428	8.32	0***	0.0009075	0.0014672
<i>const</i>	0.0004354	0.0001451	3	0.003***	0.000151	0.0007197
<i>DEMA26 - MACD</i>	0.1852596	0.1391249	1.33	0.183	-0.0874517	0.4579709
<i>const</i>	0.0006072	0.0001596	3.8	0***	0.0002943	0.0009201
<i>DPO</i>	0.1570658	0.1216483	1.29	0.197	-0.0813879	0.3955196
<i>const</i>	0.0005547	0.0001046	5.3	0***	0.0003497	0.0007598
<i>DX</i>	0.9767822	0.0075116	130.04	0***	0.9620581	0.9915063
<i>const</i>	dropped					
<i>Ease Of Movement</i>						
<i>const</i>	0.000564	0.0001608	3.51	0***	0.0002488	0.0008792
<i>Envelope</i>	9.58E-23	6.39E-23	1.5	0.134	-2.94E-23	2.21E-22
<i>const</i>	0.000536	0.0001586	3.38	0.001***	0.0002251	0.0008468
<i>Exp.Mov.Avg.</i>	0.0101905	0.0085013	1.2	0.231	-0.0064736	0.0268546
<i>const</i>	0.0001446	0.0001718	0.84	0.4	-0.0001922	0.0004813
<i>Exp.Mov.Avg.Diff.</i>	0.622501	0.360919	1.72	0.085*	-0.0849689	1.329971
<i>const</i>	0.0006166	0.0001644	3.75	0***	0.0002944	0.0009388
<i>Fosback's Unchanged Issues</i>	0.8349874	0.7356803	1.13	0.256	-0.6070862	2.277061
<i>const</i>	0.003101	0.0006821	4.55	0***	0.0017641	0.004438
<i>Historical Volatility Indicator</i>	-0.0026477	0.00071	-3.73	0***	-0.0040395	-0.001256
<i>const</i>	0.0006125	0.000146	4.2	0***	0.0003263	0.0008986

<i>Hughes Breadth Idx.</i>	-1.101912	0.0829633	-13.28	0***	-1.264535	-0.9392877
<i>const</i>	dropped					
<i>Lag.Exp.Mov.Avg.</i>						
<i>const</i>	0.0005485	0.0001593	3.44	0.001***	0.0002362	0.0008607
<i>Lag.Exp.Mov.Avg.Diff.</i>	-0.0005553	0.0005182	-1.07	0.284	-0.001571	0.0004605
<i>const</i>	0.0006084	0.0001457	4.18	0***	0.0003228	0.000894
<i>Lag.Line Weighted Mov.Avg.</i>	-1.104059	0.0825917	-13.37	0***	-1.265955	-0.9421637
<i>const</i>	0.0005478	0.0001592	3.44	0.001***	0.0002357	0.0008599
<i>Lag.Line Weighted Mov.Avg.Diff.</i>	-0.0002192	0.0002855	-0.77	0.443	-0.0007789	0.0003405
<i>const</i>	0.0005427	0.0001427	3.8	0***	0.0002629	0.0008225
<i>Lag.Mov.Avg.</i>	-1.194365	0.0676325	-17.66	0***	-1.326937	-1.061792
<i>const</i>	0.0005482	0.0001593	3.44	0.001***	0.000236	0.0008605
<i>Lag.Mov.Avg.Diff.</i>	-0.0004274	0.0004302	-0.99	0.32	-0.0012706	0.0004158
<i>const</i>	0.0005881	0.0001408	4.18	0***	0.0003121	0.0008641
<i>Lag.Value</i>	-1.097134	0.1035082	-10.6	0***	-1.300029	-0.8942378
<i>const</i>	0.0005475	0.0001591	3.44	0.001***	0.0002356	0.0008595
<i>Line Weighted Mov.Avg.</i>	-0.0001012	0.0001546	-0.65	0.513	-0.0004042	0.0002018
<i>const</i>	-0.0000458	0.0001197	-0.38	0.702	-0.0002804	0.0001887
<i>Line Weighted Mov.Avg.Diff.</i>	1.354227	0.1460478	9.27	0***	1.067946	1.640509
<i>const</i>	0.0005293	0.0001495	3.54	0***	0.0002362	0.0008224
<i>MACD</i>	6.285568	1.668806	3.77	0***	3.014392	9.556745
<i>const</i>	0.0006453	0.0001657	3.9	0***	0.0003206	0.0009701
<i>McClellan Osc.</i>	0.2267848	0.1506378	1.51	0.132	-0.0684939	0.5220635
<i>const</i>	0.0006316	0.0001654	3.82	0***	0.0003075	0.0009558
<i>McClellan Summ. Idx.</i>	0.2084971	0.1224516	1.7	0.089*	-0.0315313	0.4485255
<i>const</i>	0.0005669	0.0001628	3.48	0***	0.0002478	0.0008859
<i>Momentum</i>	-0.0002534	0.0002992	-0.85	0.397	-0.0008398	0.0003331
<i>const</i>	0.0005583	0.0001597	3.5	0***	0.0002453	0.0008713
<i>Morris Daily Pressure</i>	1.44E-06	1.59E-06	0.9	0.367	-1.69E-06	4.57E-06
<i>const</i>	0.0040727	0.0012653	3.22	0.001***	0.0015924	0.006553
<i>Morris Intraday Accumulator</i>	-0.0073053	0.0026503	-2.76	0.006***	-0.0125004	-0.0021101
<i>const</i>	0.000546	0.0002242	2.44	0.015**	0.0001065	0.0009856
<i>Neg.Chgs.Count</i>	-7.89E-18	8.89E-16	-0.01	0.993	-1.75E-15	1.73E-15
<i>const</i>	0.0171207	0.0011366	15.06	0***	0.0148927	0.0193487
<i>Neg.Chgs.Sum</i>	-0.003785	0.000257	-14.73	0***	-0.0042887	-0.0032813

<i>const</i>	0.0036242	0.0010404	3.48	0***	0.0015848	0.0056636
<i>Nicoski Idx.</i>	0.0446892	0.0162428	2.75	0.006***	0.0128503	0.0765282
<i>const</i>	0.2481347	0.1173771	2.11	0.035**	0.0180532	0.4782163
<i>OBV - Raw</i>	-0.2502639	0.1185767	-2.11	0.035**	-0.4826968	-0.017831
<i>const</i>	0.0001727	0.0001539	1.12	0.262	-0.000129	0.0004743
<i>OBV Midpoint</i>	1.33E-06	3.91E-07	3.41	0.001***	5.65E-07	2.10E-06
<i>const</i>	0.0004522	0.0002407	1.88	0.06*	-0.0000196	0.000924
<i>OBV Oscillator</i>	8.78E-09	2.25E-08	0.39	0.697	-3.54E-08	5.30E-08
<i>const</i>	0.0002292	0.00019	1.21	0.228	-0.0001432	0.0006017
<i>OBV with Average Volume</i>	-0.0001289	8.95E-06	-14.41	0***	-0.0001465	-0.000111
<i>const</i>	0.0005602	0.0001627	3.44	0.001***	0.0002413	0.0008791
<i>OBV</i>	-0.0516661	0.0537901	-0.96	0.337	-0.157105	0.0537728
<i>const</i>	0.0001727	0.0001539	1.12	0.262	-0.000129	0.0004743
<i>Pos.&amp;Neg.Chgs.Counts Diff.</i>	1.33E-06	3.91E-07	3.41	0.001***	5.65E-07	2.10E-06
<i>const</i>	0.0003503	0.0001801	1.95	0.052*	-2.71E-06	0.0007034
<i>PAIN</i>	0.0021278	0.000115	18.51	0***	0.0019025	0.0023531
<i>const</i>	0.0006747	0.00018	3.75	0***	0.0003219	0.0010275
<i>Price Volume Rank</i>	2.08E-11	1.03E-11	2.02	0.044**	5.70E-13	4.10E-11
<i>const</i>	dropped					
<i>Price Vol.Trend</i>						
<i>const</i>	0.0000716	0.0002957	0.24	0.809	-0.0005081	0.0006512
<i>Qstick</i>	-2.29E-08	1.66E-08	-1.38	0.167	-5.53E-08	9.60E-09
<i>const</i>	0.0009281	0.0003031	3.06	0.002***	0.0003339	0.0015223
<i>TEMA26 - MACD</i>	5.87E-07	3.09E-07	1.9	0.058*	-2.00E-08	1.19E-06
<i>const</i>	0.0005564	0.000168	3.31	0.001***	0.0002271	0.0008858
<i>Tomas Demark -max</i>	0.1993881	0.1477694	1.35	0.177	-0.0902682	0.4890443
<i>const</i>	0.0008832	0.0003019	2.93	0.003***	0.0002914	0.0014751
<i>Tomas Demark -min</i>	-1.03E-06	6.10E-07	-1.68	0.093*	-2.22E-06	1.70E-07
<i>const</i>	0.0006836	0.0001798	3.8	0***	0.0003312	0.0010361
<i>Up Volatility - Down Volatility</i>	-1.11E-11	1.05E-11	-1.06	0.287	-3.16E-11	9.38E-12
<i>const</i>	0.0006363	0.000177	3.59	0***	0.0002892	0.0009833
<i>Up/Down Volume</i>	7.30E-12	6.22E-12	1.17	0.241	-4.90E-12	1.95E-11
<i>const</i>	-0.0101132	0.0011506	-8.79	0***	-0.0123686	-0.0078578
<i>Velocity</i>	0.0102894	0.0011194	9.19	0***	0.0080952	0.0124836

<i>const</i>	0.0006234	0.0001421	4.39	0***	0.0003449	0.0009019
<i>Volatility</i>	4.200094	0.8565341	4.9	0***	2.521124	5.879064
<i>const</i>	-0.0001251	0.0004087	-0.31	0.76	-0.0009261	0.000676
<i>Volume % +/- Average</i>	-5.92E-06	4.50E-06	-1.32	0.188	-0.0000147	2.89E-06
<i>const</i>	dropped					
<i>Volume &amp; Price Accumulator</i>						
<i>const</i>	0.0004173	0.0002415	1.73	0.084	-0.0000562	0.0008908
<i>Volume Line Variation</i>	-6.04E-09	1.17E-08	-0.52	0.606	-2.90E-08	1.70E-08
<i>const</i>	dropped					
<i>Vol.Osc. Points</i>						
<i>const</i>	0.0004138	0.0002258	1.83	0.067*	-0.0000287	0.0008564
<i>Volume Rating</i>	6.65E-06	0.0000119	0.56	0.577	-0.0000167	0.00003
<i>const</i>	dropped					
<i>Volume Reversal Alerts</i>						
<i>const</i>	0.0005444	0.0001593	3.42	0.001***	0.0002321	0.0008568
<i>Volume Weighted RSI - MFI</i>	9.46E-08	1.32E-07	0.72	0.474	-1.64E-07	3.53E-07
<i>const</i>	-0.0000338	0.0002039	-0.17	0.868	-0.0004336	0.000366
<i>Williams %R</i>	-0.0000198	3.47E-06	-5.7	0***	-0.0000265	-1.30E-05
<i>const</i>	-0.1837637	0.0096075	-19.13	0***	-0.2025963	-0.1649312
<i>Wilder RSI</i>	0.0036869	0.0001926	19.14	0***	0.0033093	0.0040645

**Table 3. Panel regressions with Newey -West standard errors**

This table reports White Standard Errors which are robust to within cluster correlation. This specification allows for observations on the same firm in different days to be correlated (e.g. a firm effect). (\*\*\*) significant at the 99% C.I.; (\*\*) significant at the 95% C. I.; (\*) significant at the 90% C.I.

	Coef.	Std. Err.	t	P>t	F(39, 10439)	Prob > F	[95% Conf. Interval]
<i>const</i>	0.0005302	0.0001768	3	0.003***	0.88	0.6769	0.0001835 0.0008768
<i>Acceleration</i>	1.049086	0.1005281	10.44	0***			0.8520321 1.246141
<i>const</i>	0.0011067	0.002092	0.53	0.597	1.03	0.4262	-0.0029941 0.0052074
<i>Acc/Dis</i>	-2.78E-08	1.04E-07	-0.27	0.788			-2.31E-07 1.75E-07
<i>const</i>	-0.0117335	0.0011848	-9.9	0***	3.07	0.0000***	-0.0140561 -0.009411
<i>Advance Decline Line</i>	0.0154251	0.0014715	10.48	0***			0.0125406 0.0183096
<i>const</i>	0.000529	0.0001771	2.99	0.003***	1.02	0.4401	0.0001819 0.0008761
<i>Aroon Osc.</i>	0.0000347	3.86E-06	8.99	0***			0.0000271 0.0000422
<i>const</i>	-0.0039482	0.0003397	-11.62	0***	0.86	0.7136	-0.0046141 -0.0032822

<i>Aroon Up</i>	0.0000883	5.71E-06	15.46	0***			0.0000771	0.0000995
<i>const</i>	0.0005507	0.0001501	3.67	0***	1.55	0.0162**	0.0002564	0.000845
<i>Avg.Chg.</i>	3.588937	0.055449	64.72	0***			3.480247	3.697628
<i>const</i>	0.0027656	0.0002939	9.41	0***	2.30	0.0000***	0.0021895	0.0033417
<i>Avg.Neg.Chg.</i>	0.136462	0.0144341	9.45	0***			0.1081684	0.1647556
<i>const</i>	-0.0009377	0.0002585	-3.63	0***	0.65	0.9551	-0.0014443	-0.000431
<i>Avg.Pos.Chg.</i>	0.0960813	0.0121748	7.89	0***			0.0722164	0.1199463
<i>const</i>	-0.0009911	0.0002635	-3.76	0***	0.56	0.9886	-0.0015077	-0.0004746
<i>Average True Range</i>	0.0960195	0.0121724	7.89	0***			0.0721592	0.1198797
<i>const</i>	0.0010663	0.0004719	2.26	0.024**	1.04	0.3960	0.0001412	0.0019913
<i>Bollinger Band Down</i>	-4.27E-11	3.60E-11	-1.19	0.235			-1.13E-10	2.78E-11
<i>const</i>	0.0014732	0.0002706	5.44	0***	1.41	0.0478	0.0009427	0.0020036
<i>Bollinger Band %</i>	0.037186	0.0082017	4.53	0***			0.0211092	0.0532629
<i>const</i>	-0.0252389	0.0002808	-89.89	0***	2.67	0.0000***	-0.0257893	-0.0246885
<i>Bollinger Band Up</i>	0.0005152	5.01E-06	102.73	0***			0.0005053	0.000525
<i>const</i>	-0.0014369	0.0002711	-5.3	0***	0.44	0.9990	-0.0019683	-0.0009055
<i>Bollinger Band Width</i>	0.0759431	0.0078605	9.66	0***			0.060535	0.0913511
<i>const</i>	0.0005499	0.0001786	3.08	0.002***	1.21	0.1698	0.0001998	0.0009
<i>Breadth Adv./Decl.</i>	1.05E-10	1.50E-09	0.07	0.944			-2.84E-09	3.05E-09
<i>const</i>	0.448329	0.0569744	7.87	0***	0.44	0.9991	0.3366483	0.5600096
<i>Chaikin A/D Osc.</i>	-0.8961414	0.1140217	-7.86	0***			-1.119646	-0.672637
<i>const</i>	0.0000742	0.0008031	0.09	0.926	1.03	0.4127	-0.0015	0.0016484
<i>Chaikin Money Flow</i>	7.00E-06	1.16E-05	0.6	0.546			-1.57E-05	2.97E-05
<i>const</i>	0.0010147	0.0009322	1.09	0.276	0.91	0.6311	-0.0008126	0.0028419
<i>Chaikin Volatility</i>	-0.0005032	0.0009851	-0.51	0.61			-0.0024342	0.0014279
<i>const</i>	0.0005642	0.0001777	3.17	0.002***	1.17	0.2200	0.0002159	0.0009125
<i>CMO</i>	-3.47E-09	9.67E-10	-3.59	0***			-5.37E-09	-1.58E-09
<i>const</i>	0.0002085	0.0001605	1.3	0.194	1.79	0.0017	-0.0001062	0.0005232
<i>Cole's Rally Day</i>	0.000855	0.0000175	48.8	0***			0.0008207	0.0008894
<i>const</i>	0.0034418	0.0001937	17.77	0***	0.84	0.7514	0.003062	0.0038215
<i>Cole's Reaction Day</i>	-0.0126286	0.0004052	-31.17	0***			-0.0134229	-0.0118344
<i>const</i>	-0.0037681	0.0001858	-20.28	0***	1.11	0.2948	-0.0041322	-0.003404
<i>Cutler's RSI</i>	0.0177007	0.0003767	46.99	0***			0.0169624	0.0184391
<i>const</i>	-0.0635131	0.0011046	-57.5	0***	10.08	0.0000***	-0.0656783	-0.0613479
<i>DEMA26</i>	0.0012867	0.000022	58.57	0***			0.0012436	0.0013298



<i>const</i>	0.0004395	0.0001761	2.5	0.013**	0.47	0.9981	0.0000943	0.0007847
<i>DEMA26 - MACD</i>	0.1784429	0.0122267	14.59	0***			0.1544763	0.2024095
<i>const</i>	0.0006122	0.0001761	3.48	0.001***	1.71	0.0038***	0.000267	0.0009573
<i>DPO</i>	0.1700292	0.0118663	14.33	0***			0.146769	0.1932894
<i>const</i>	0.0005547	0.0000424	13.08	0***	18.09	0.0000***	0.0004716	0.0006379
<i>DX</i>	0.9768417	0.0023491	415.83	0***			0.972237	0.9814464
<i>const</i>	dropped							
<i>Ease Of Movement</i>								
<i>const</i>	0.0005643	0.0001797	3.14	0.002***	1.19	0.1960	0.0002121	0.0009165
<i>Envelope</i>	9.78E-23	1.38E-22	0.71	0.479			-1.73E-22	3.68E-22
<i>const</i>	0.00055	0.0001786	3.08	0.002***	1.09	0.3283	0.0002	0.0009
<i>Exp.Mov.Avg.</i>	-0.0005504	0.006709	-0.08	0.935			-0.0137014	0.0126005
<i>const</i>	0.0001353	0.0001695	0.8	0.425	0.39	0.9998	-0.0001968	0.0004675
<i>Exp.Mov.Avg.Diff.</i>	0.6367942	0.0191327	33.28	0***			0.5992904	0.674298
<i>const</i>	0.0006257	0.0001763	3.55	0***	1.89	0.0007	0.0002801	0.0009713
<i>Fosback's Unchanged Issues</i>	0.9443709	0.070436	13.41	0***			0.8063029	1.082439
<i>const</i>	0.0023944	0.0009578	2.5	0.012**	0.93	0.5954	0.0005169	0.0042719
<i>Historical Volatility Indicator</i>	-0.0019151	0.0009758	-1.96	0.05*			-0.0038279	-2.32E-06
<i>const</i>	0.0006127	0.0001226	5	0***	3.84	0.0000***	0.0003724	0.000853
<i>Hughes Breadth Idx.</i>	-1.105753	0.0103053	-107.3	0***			-1.125953	-1.085552
<i>const</i>	dropped							
<i>Lag.Exp.Mov.Avg.</i>								
<i>const</i>	0.0005525	0.0001778	3.11	0.002***	1.05	0.3845	0.000204	0.0009011
<i>Lag.Exp.Mov.Avg.Diff.</i>	-0.0024269	0.0023492	-1.03	0.302			-0.0070318	0.0021779
<i>const</i>	0.0006086	0.0001221	4.99	0***	3.88	0.0000***	0.0003693	0.0008479
<i>Lag.Line Weighted Mov.Avg.</i>	-1.10789	0.0102436	-108.15	0***			-1.127969	-1.08781
<i>const</i>	0.0005498	0.0001778	3.09	0.002***	1.04	0.4077	0.0002013	0.0008983
<i>Lag.Line Weighted Mov.Avg.Diff.</i>	-0.0011633	0.0016754	-0.69	0.487			-0.0044474	0.0021208
<i>const</i>	0.0005427	0.0001421	3.82	0***	1.53	0.0189**	0.0002642	0.0008213
<i>Lag.Mov.Avg.</i>	-1.194296	0.0155587	-76.76	0***			-1.224794	-1.163798
<i>const</i>	0.0005507	0.0001778	3.1	0.002***	1.04	0.3992	0.0002022	0.0008992
<i>Lag.Mov.Avg.Diff.</i>	-0.0015354	0.0018111	-0.85	0.397			-0.0050855	0.0020146
<i>const</i>	0.0005882	0.0001599	3.68	0***	1.32	0.0865*	0.0002746	0.0009017
<i>Lag.Value</i>	-1.097923	0.0221669	-49.53	0***			-1.141374	-1.054472

<i>const</i>	0.0005483	0.0001778	3.08	0.002***	1.03	0.4196	0.0001999	0.0008968
<i>Line Weighted Mov.Avg.</i>	-0.0004635	0.0010385	-0.45	0.655			-0.0024992	0.0015722
<i>const</i>	-0.0000512	0.0001576	-0.32	0.745	0.23	1.0000	-0.0003601	0.0002577
<i>Line Weighted Mov.Avg.Diff.</i>	1.366477	0.0253419	53.92	0***			1.316802	1.416152
<i>const</i>	0.0005294	0.0001673	3.17	0.002***	0.90	0.6554	0.0002015	0.0008572
<i>MACD</i>	6.266369	0.170486	36.76	0***			5.932184	6.600554
<i>const</i>	0.0006813	0.0001768	3.85	0***	2.51	0.0000***	0.0003347	0.001028
<i>McClellan Osc.</i>	0.3100965	0.0254316	12.19	0***			0.2602456	0.3599473
<i>const</i>	0.000679	0.0001774	3.83	0***	2.36	0.0000***	0.0003313	0.0010266
<i>McClellan Summ. Idx.</i>	0.3254393	0.0322151	10.1	0***			0.2622917	0.388587
<i>const</i>	0.0007654	0.0001938	3.95	0***	1.23	0.1576	0.0003855	0.0011453
<i>Momentum</i>	-0.0028254	0.0010026	-2.82	0.005***			-0.0047906	-0.0008601
<i>const</i>	0.0005581	0.0001776	3.14	0.002***	1.01	0.4525	0.0002099	0.0009063
<i>Morris Daily Pressure</i>	1.41E-06	3.76E-07	3.75	0***			6.75E-07	2.15E-06
<i>const</i>	0.0009645	0.0019641	0.49	0.623	0.93	0.5922	-0.0028855	0.0048145
<i>Morris Intraday Accumulator</i>	-0.0008645	0.0040533	-0.21	0.831			-0.0088097	0.0070807
<i>const</i>	0.0043975	0.0032889	1.34	0.181	1.06	0.3694	-0.0020495	0.0108444
<i>Neg.Chgs.Count</i>	2.41E-14	2.06E-14	1.17	0.241			-1.62E-14	6.44E-14
<i>const</i>	0.01732	0.0007922	21.86	0***	0.64	0.9617	0.0157671	0.0188729
<i>Neg.Chgs.Sum</i>	-0.0038305	0.0001765	-21.7	0***			-0.0041765	-0.0034845
<i>const</i>	0.0048541	0.0002853	17.01	0***	4.50	0.0000***	0.0042948	0.0054133
<i>Nicoski Idx.</i>	0.0625522	0.0032759	19.09	0***			0.0561309	0.0689736
<i>const</i>	0.2933602	0.0477573	6.14	0***	0.41	0.9996	0.1997468	0.3869737
<i>OBV - Raw</i>	-0.2959783	0.0482732	-6.13	0***			-0.3906031	-0.2013535
<i>const</i>	-0.003527	0.0004849	-7.27	0***	2.81	0.0000***	-0.0044775	-0.0025764
<i>OBV Midpoint</i>	1.45E-05	1.60E-06	9.02	0***			1.13E-05	1.76E-05
<i>const</i>	0.0010268	0.0020876	0.49	0.623	1.02	0.4297	-0.0030652	0.0051189
<i>OBV Oscillator</i>	-4.43E-08	1.92E-07	-0.23	0.818			-4.21E-07	3.32E-07
<i>const</i>	0.0001994	0.0001727	1.15	0.248	2.28	0.0000***	-0.0001391	0.000538
<i>OBV with Average Volume</i>	-0.000141	5.40E-06	-26.11	0***			-0.0001516	-0.0001304
<i>const</i>	dropped							
<i>OBV</i>								
<i>const</i>	-0.003527	0.0004849	-7.27	0***	2.81	0.0000***	-0.0044775	-0.0025764
<i>Pos.&amp;Neg.Chgs.Counts Diff.</i>	1.45E-05	1.60E-06	9.02	0***			1.13E-05	1.76E-05
<i>const</i>	0.0003452	0.0001734	1.99	0.047**	1.30	0.1028	5.20E-06	0.0006851

<i>PAIN</i>	0.0021839	0.0000929	23.52	0***			0.0020019	0.002366
<i>const</i>	0.0008484	0.0002443	3.47	0.001***	1.06	0.3765	0.0003695	0.0013272
<i>Price Volume Rank</i>	4.91E-11	2.74E-11	1.8	0.073*			-4.49E-12	1.03E-10
<i>const</i>	dropped							
<i>Price Vol.Trend</i>								
<i>const</i>	0.0014284	0.0020815	0.69	0.493	0.96	0.5325	-0.0026518	0.0055086
<i>Qstick</i>	4.23E-08	9.97E-08	0.42	0.671			-1.53E-07	2.38E-07
<i>const</i>	-0.0077251	0.0018883	-4.09	0***	1.44	0.0370**	-0.0114265	-0.0040238
<i>TEMA26 - MACD</i>	-1.27E-05	2.90E-06	-4.4	0***			-1.84E-05	-7.07E-06
<i>const</i>	0.0005565	0.0001747	3.18	0.001***	1.29	0.1071	0.000214	0.0008991
<i>Tomas Demark -max</i>	0.2020962	0.010634	19	0***			0.1812516	0.2229408
<i>const</i>	-0.0110036	0.0018631	-5.91	0***	1.96	0.0003***	-0.0146557	-0.0073515
<i>Tomas Demark -min</i>	3.53E-05	5.67E-06	6.23	0***			2.42E-05	4.64E-05
<i>const</i>	0.0008799	0.0002443	3.6	0***	1.07	0.3594	0.000401	0.0013587
<i>Up Volatility - Down Volatility</i>	-2.71E-11	1.37E-11	-1.98	0.047**			-5.40E-11	-3.30E-13
<i>const</i>	0.0010581	0.000437	2.42	0.015**	1.05	0.3895	0.0002015	0.0019146
<i>Up/Down Volume</i>	4.19E-11	3.27E-11	1.28	0.201			-2.23E-11	1.06E-10
<i>const</i>	-0.0120042	0.001114	-10.78	0***	1.42	0.0424**	-0.0141878	-0.0098205
<i>Velocity</i>	0.0121146	0.0010616	11.41	0***			0.0100336	0.0141955
<i>const</i>	0.0006234	0.0001511	4.12	0***	1.35	0.0692*	0.0003272	0.0009197
<i>Volatility</i>	4.200594	0.0664279	63.24	0***			4.070382	4.330805
<i>const</i>	-0.0001252	0.0001792	-0.7	0.485	0.96	0.5439	-0.0004764	0.0002261
<i>Volume % +/- Average</i>	-5.92E-06	3.12E-07	-19	0***			-6.54E-06	-5.31E-06
<i>const</i>	dropped							
<i>Volume &amp; Price Accumulator</i>								
<i>const</i>	0.0007406	0.0021108	0.35	0.726	1.02	0.4353	-0.0033971	0.0048782
<i>Volume Line Variation</i>	8.99E-09	9.78E-08	0.09	0.927			-1.83E-07	2.01E-07
<i>const</i>	dropped							
<i>Vol.Osc. Points</i>								
<i>const</i>	0.0029633	0.0008992	3.3	0.001***		0.1711	0.0012006	0.004726
<i>Volume Rating</i>	-1.20E-04	0.0000439	-2.74	0.006***	1.21		-0.0002063	-0.0000343
<i>const</i>	dropped							
<i>Volume Reversal Alerts</i>								
<i>const</i>	0.0005444	0.0001778	3.06	0.002***	1.02	0.4277	0.0001959	0.000893
<i>Volume Weighted RSI - MFI</i>	9.49E-08	1.71E-07	0.55	0.579			-2.41E-07	4.31E-07

<i>const</i>	-2.73E-08	0.0002114	0	1	0.95	0.5591	-0.0004144	0.0004144
<i>Williams %R</i>	-0.0000186	3.90E-06	-4.77	0***			-0.0000262	-1.10E-05
<i>const</i>	-0.1841985	0.0013978	-131.78	0***	4.46	0.0000***	-0.1869385	-0.1814585
<i>Wilder RSI</i>	0.0036956	0.0000279	132.57	0***			0.0036409	0.0037502

**Table 4. Panel regressions with Fixed Effects**

This table reports fixed effects estimation corrected by robust standard errors. (\*\*\*) significant at the 99% C.I.; (\*\*) significant at the 95% C. I.; (\*) significant at the 90% C.I.

	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
<i>const</i>	0.0005297	0.0001756	3.02	0.003***	0.0001856	0.0008739
<i>Acceleration</i>	1.075346	0.7918289	1.36	0.174	-0.4766097	2.627302
<i>const</i>	0.0004911	0.0001852	2.65	0.008***	0.0001281	0.0008541
<i>Acc/Dis</i>	2.79E-09	1.11E-08	0.25	0.801	-1.89E-08	2.45E-08
<i>const</i>	0.0002923	0.0001113	2.63	0.009***	0.0000741	0.0005104
<i>Advance Decline Line</i>	0.0003203	0.0000133	24.11	0***	0.0002943	0.0003464
<i>const</i>	0.000529	0.0001777	2.98	0.003***	0.0001807	0.0008773
<i>Aroon Osc.</i>	0.0000347	3.54E-06	9.81	0***	0.0000278	0.0000416
<i>const</i>	-0.0039998	0.0002698	-14.82	0***	-0.0045287	-0.003471
<i>Aroon Up</i>	0.0000893	6.69E-06	13.35	0***	0.0000762	0.0001024
<i>const</i>	0.0005507	0.0001867	2.95	0.003***	0.0001848	0.0009166
<i>Avg.Chg.</i>	3.586836	0.1973922	18.17	0***	3.199954	3.973717
<i>const</i>	0.0018695	0.0011802	1.58	0.113	-0.0004436	0.0041826
<i>Avg.Neg.Chg.</i>	0.0813393	0.0825059	0.99	0.324	-0.0803693	0.2430479
<i>const</i>	-0.0009225	0.0009958	-0.93	0.354	-0.0028743	0.0010292
<i>Avg.Pos.Chg.</i>	0.0951017	0.0674295	1.41	0.158	-0.0370578	0.2272611
<i>const</i>	-0.0010654	0.0010887	-0.98	0.328	-0.0031992	0.0010683
<i>Average True Range</i>	0.1006575	0.0709636	1.42	0.156	-0.0384287	0.2397436
<i>const</i>	0.0006335	0.000207	3.06	0.002***	0.0002278	0.0010392
<i>Bollinger Band Down</i>	-7.09E-12	3.36E-12	-2.11	0.035**	-1.37E-11	-4.94E-13
<i>const</i>	0.0009915	0.0007235	1.37	0.171	-0.0004265	0.0024095
<i>Bollinger Band %</i>	0.0178414	0.0359242	0.5	0.619	-0.0525688	0.0882516
<i>const</i>	-0.0252103	0.0017411	-14.48	0***	-0.0286228	-0.0217979
<i>Bollinger Band Up</i>	0.0005151	3.79E-05	13.59	0***	0.0004408	0.0005893
<i>const</i>	-0.0014273	0.0008194	-1.74	0.082*	-0.0030332	0.0001787
<i>Bollinger Band Width</i>	0.0755761	0.0328472	2.3	0.021**	0.0111968	0.1399554
<i>const</i>	0.0005595	0.0001906	2.94	0.003***	0.000186	0.000933

<i>Breadth Adv./Decl.</i>	1.25E-10	4.56E-10	0.27	0.784	-7.68E-10	1.02E-09
<i>const</i>	0.3804438	0.0615228	6.18	0***	0.2598614	0.5010262
<i>Chaikin A/D Osc.</i>	-0.7602834	0.1231657	-6.17	0***	-1.001684	-0.5188831
<i>const</i>	0.0005811	0.0001758	3.3	0.001***	0.0002365	0.0009258
<i>Chaikin Money Flow</i>	-5.01E-07	3.07E-06	-0.16	0.871	-6.53E-06	5.52E-06
<i>const</i>	0.0024243	0.0007251	3.34	0.001***	0.0010031	0.0038456
<i>Chaikin Volatility</i>	-0.0020208	0.0009095	-2.22	0.026**	-0.0038034	-0.0002381
<i>const</i>	0.0005599	0.0001903	2.94	0.003***	0.000187	0.0009328
<i>CMO</i>	-2.59E-09	2.62E-11	-98.94	0***	-2.64E-09	-2.54E-09
<i>const</i>	0.0002214	0.0001233	1.8	0.072*	-0.0000202	0.000463
<i>Cole's Rally Day</i>	0.0008224	0.0003284	2.5	0.012**	0.0001787	0.0014661
<i>const</i>	0.0034528	0.0004083	8.46	0***	0.0026526	0.004253
<i>Cole's Reaction Day</i>	-0.0126768	0.0011769	-10.77	0***	-0.0149836	-0.0103701
<i>const</i>	-0.0037666	0.0002664	-14.14	0***	-0.0042887	-0.0032445
<i>Cutler's RSI</i>	0.0176946	0.0015464	11.44	0***	0.0146637	0.0207255
<i>const</i>	-0.0585672	0.011054	-5.3	0***	-0.0802327	-0.0369018
<i>DEMA26</i>	0.0011874	0.0002131	5.57	0***	0.0007698	0.001605
<i>const</i>	0.0004354	0.0001726	2.52	0.012**	0.000097	0.0007738
<i>DEMA26 - MACD</i>	0.1852596	0.1158241	1.6	0.11	-0.0417514	0.4122706
<i>const</i>	0.0006072	0.0001956	3.1	0.002***	0.0002239	0.0009906
<i>DPO</i>	0.1570658	0.1066806	1.47	0.141	-0.0520243	0.366156
<i>const</i>	0.0005547	0.0001804	3.08	0.002***	0.0002012	0.0009083
<i>DX</i>	0.9768385	0.0076521	127.66	0***	0.9618406	0.9918364
<i>const</i>	dropped					
<i>Ease Of Movement</i>						
<i>const</i>	0.000572	0.0001901	3.01	0.003***	0.0001995	0.0009445
<i>Envelope</i>	9.66E-23	1.33E-23	7.25	0***	7.05E-23	1.23E-22
<i>const</i>	0.000536	0.0001776	3.02	0.003***	0.0001879	0.0008841
<i>Exp.Mov.Avg.</i>	0.0101905	0.0055255	1.84	0.065*	-0.0006393	0.0210204
<i>const</i>	0.0001446	0.0001228	1.18	0.239	-0.0000961	0.0003853
<i>Exp.Mov.Avg.Diff.</i>	0.622501	0.2943407	2.11	0.034**	0.0456038	1.199398
<i>const</i>	0.0006166	0.0002085	2.96	0.003***	0.000208	0.0010252
<i>Fosback's Unchanged Issues</i>	0.8349874	0.5596752	1.49	0.136	-0.2619559	1.931931
<i>const</i>	0.003101	0.0004636	6.69	0***	0.0021924	0.0040097
<i>Historical Volatility Indicator</i>	-0.0026477	0.0004049	-6.54	0***	-0.0034414	-1.85E-03
<i>const</i>	0.0006125	0.0002383	2.57	0.01***	0.0001454	0.0010795
<i>Hughes Breadth Idx.</i>	-1.101912	0.0531366	-20.74	0***	-1.206057	-0.9977658

<i>const</i>	dropped					
<i>Lag.Exp.Mov.Avg.</i>						
<i>const</i>	0.0005485	0.0001807	3.04	0.002***	0.0001944	0.0009026
<i>Lag.Exp.Mov.Avg.Diff.</i>	-0.0005553	0.0001552	-3.58	0***	-0.0008595	-0.000251
<i>const</i>	0.0006084	0.0002386	2.55	0.011**	0.0001407	0.0010761
<i>Lag.Line Weighted Mov.Avg.</i>	-1.104059	0.0530986	-20.79	0***	-1.208131	-0.9999877
<i>const</i>	0.0005478	0.0001804	3.04	0.002***	0.0001942	0.0009013
<i>Lag.Line Weighted Mov.Avg.Diff.</i>	-0.0002192	0.0001233	-1.78	0.075*	-0.0004608	0.0000224
<i>const</i>	0.0005427	0.0001755	3.09	0.002***	0.0001988	0.0008867
<i>Lag.Mov.Avg.</i>	-1.19434	0.0445169	-26.83	0***	-1.281591	-1.107088
<i>const</i>	0.0005482	0.0001806	3.04	0.002***	0.0001943	0.0009021
<i>Lag.Mov.Avg.Diff.</i>	-0.0004274	0.000141	-3.03	0.002***	-0.0007037	-0.0001511
<i>const</i>	0.0005881	0.0001852	3.18	0.001***	0.0002251	0.0009511
<i>Lag.Value</i>	-1.097313	0.0559212	-19.62	0***	-1.206917	-0.9877097
<i>const</i>	0.0005475	0.0001799	3.04	0.002***	0.0001948	0.0009002
<i>Line Weighted Mov.Avg.</i>	-0.0001012	0.0000987	-1.03	0.305	-0.0002946	0.0000922
<i>const</i>	-0.0000458	0.0001052	-0.44	0.663	-0.000252	0.0001604
<i>Line Weighted Mov.Avg.Diff.</i>	1.354227	0.1152879	11.75	0***	1.128267	1.580187
<i>const</i>	0.0005293	0.0001592	3.32	0.001***	0.0002172	0.0008414
<i>MACD</i>	6.285568	1.157156	5.43	0***	4.017584	8.553553
<i>const</i>	0.0006453	0.000223	2.89	0.004***	0.0002082	0.0010824
<i>McClellan Osc.</i>	0.2267848	0.1248909	1.82	0.069*	-0.017997	0.4715666
<i>const</i>	0.0006316	0.0002247	2.81	0.005***	0.0001912	0.0010721
<i>McClellan Summ. Idx.</i>	0.2084971	0.0935682	2.23	0.026**	0.0251068	0.3918875
<i>const</i>	0.0005669	0.0001876	3.02	0.003***	0.0001991	0.0009346
<i>Momentum</i>	-0.0002534	0.0002527	-1	0.316	-0.0007486	0.0002419
<i>const</i>	0.0005583	0.0001821	3.07	0.002***	0.0002013	0.0009152
<i>Morris Daily Pressure</i>	1.44E-06	1.59E-06	0.9	0.366	-1.68E-06	4.56E-06
<i>const</i>	0.0040727	0.0013494	3.02	0.003***	0.0014279	0.0067175
<i>Morris Intraday Accumulator</i>	-0.0073053	0.0030713	-2.38	0.017**	-0.0133249	-0.0012856
<i>const</i>	0.0005468	0.000256	2.14	0.033**	0.000045	0.0010486
<i>Neg.Chgs.Count</i>	-3.07E-18	7.76E-16	0	0.997	-1.52E-15	1.52E-15
<i>const</i>	0.0171207	0.0013058	13.11	0***	0.0145613	0.0196801
<i>Neg.Chgs.Sum</i>	-0.003785	0.0003111	-12.17	0***	-0.0043947	-0.0031753
<i>const</i>	0.0036242	0.0012341	2.94	0.003***	0.0012054	0.006043
<i>Nicoski Idx.</i>	0.0446892	0.0219797	2.03	0.042**	0.0016098	0.0877686

<i>const</i>	0.2481347	0.0266083	9.33	0***	0.1959835	0.300286
<i>OBV - Raw</i>	-0.2502639	0.0269283	-9.29	0***	-0.3030425	-0.1974854
<i>const</i>	0.0001701	0.0001417	1.2	0.23	-0.0001075	0.0004478
<i>OBV Midpoint</i>	1.34E-06	5.69E-07	2.36	0.018**	2.25E-07	2.45E-06
<i>const</i>	0.0004528	0.0001821	2.49	0.013**	0.0000959	0.0008098
<i>OBV Oscillator</i>	8.72E-09	2.23E-08	0.39	0.696	-3.51E-08	5.25E-08
<i>const</i>	0.0002276	0.0002339	0.97	0.33	-0.0002307	0.000686
<i>OBV with Average Volume</i>	-0.0001296	1.58E-05	-8.22	0***	-0.0001605	-0.0000987
<i>const</i>	0.0005602	0.000184	3.04	0.002***	0.0001995	0.0009209
<i>OBV</i>	-0.0516661	0.0184048	-2.81	0.005***	-0.0877388	-0.0155933
<i>const</i>	0.0001701	0.0001417	1.2	0.23	-0.0001075	0.0004478
<i>Pos.&amp;Neg.Chgs.Counts Diff.</i>	1.34E-06	5.69E-07	2.36	0.018**	2.25E-07	2.45E-06
<i>const</i>	0.0003501	0.000194	1.8	0.071*	-3.02E-05	0.0007303
<i>PAIN</i>	0.002131	0.0001375	15.5	0***	0.0018614	0.0024005
<i>const</i>	0.0006768	0.0002434	2.78	0.005***	0.0001999	0.0011538
<i>Price Volume Rank</i>	2.11E-11	1.63E-11	1.3	0.194	-1.07E-11	5.30E-11
<i>const</i>	dropped					
<i>Price Vol.Trend</i>						
<i>const</i>	0.0000716	0.0003369	0.21	0.832	-0.0005888	0.000732
<i>Qstick</i>	-2.29E-08	2.20E-08	-1.04	0.298	-6.59E-08	2.02E-08
<i>const</i>	0.0009281	0.0003593	2.58	0.01***	0.0002239	0.0016323
<i>TEMA26 - MACD</i>	5.87E-07	3.35E-07	1.75	0.08*	-7.02E-08	1.24E-06
<i>const</i>	0.0005564	0.0001934	2.88	0.004***	0.0001775	0.0009354
<i>Tomas Demark -max</i>	0.1993881	0.1354189	1.47	0.141	-0.0660282	0.4648043
<i>const</i>	0.0008832	0.0003601	2.45	0.014**	0.0001774	0.001589
<i>Tomas Demark -min</i>	-1.03E-06	6.65E-07	-1.54	0.123	-2.33E-06	2.77E-07
<i>const</i>	0.0006861	0.0001888	3.63	0***	0.0003161	0.0010561
<i>Up Volatility - Down Volatility</i>	-1.13E-11	6.49E-12	-1.75	0.081*	-2.40E-11	1.39E-12
<i>const</i>	0.0006375	0.0002048	3.11	0.002***	0.000236	0.001039
<i>Up/Down Volume</i>	7.40E-12	3.33E-12	2.22	0.026**	8.79E-13	1.39E-11
<i>const</i>	-0.0101708	0.0011995	-8.48	0***	-0.0125219	-0.0078197
<i>Velocity</i>	0.0103451	0.0012128	8.53	0***	0.007968	0.0127221
<i>const</i>	0.0006234	0.0001772	3.52	0***	0.0002762	0.0009707
<i>Volatility</i>	4.200234	0.2587435	16.23	0***	3.693106	4.707362
<i>const</i>	-0.0001196	0.0004052	-0.3	0.768	-0.0009137	0.0006746
<i>Volume % +/- Average</i>	-5.92E-06	4.42E-06	-1.34	0.18	-1.46E-05	2.73E-06
<i>const</i>	dropped					

<i>Volume &amp; Price Accumulator</i>						
<i>const</i>	0.0004176	0.0001878	2.22	0.026**	0.0000495	0.0007858
<i>Volume Line Variation</i>	-6.03E-09	1.24E-08	-0.49	0.626	-3.03E-08	1.82E-08
<i>const</i>	dropped					
<i>Vol.Osc. Points</i>						
<i>const</i>	0.0004138	0.0001843	2.25	0.025**	0.0000526	0.000775
<i>Volume Rating</i>	6.65E-06	0.0000138	0.48	0.631	-0.0000205	0.0000338
<i>const</i>	dropped					
<i>Volume Reversal Alerts</i>						
<i>const</i>	0.0005444	0.00018	3.03	0.002***	0.0001917	0.0008972
<i>Volume Weighted RSI - MFI</i>	9.46E-08	6.81E-09	13.9	0***	8.13E-08	1.08E-07
<i>const</i>	-3.38E-05	0.0001601	-0.21	0.833	-0.0003476	0.00028
<i>Williams %R</i>	-0.0000198	3.00E-06	-6.57	0***	-0.0000256	-1.39E-05
<i>const</i>	-0.1839481	0.016014	-11.49	0***	-0.215335	-0.1525611
<i>Wilder RSI</i>	0.0036906	0.0003235	11.41	0***	0.0030566	0.0043246

**Table 5. Panel regressions with Generalised Least Squares**

This table reports random effects estimations which use a GLS approach. If residuals are correlated within firms, not only are OLS standard errors biased but the slope coefficients are not efficient. (\*\*\*) significant at the 99% C.I.; (\*\*) significant at the 95% C. I.; (\*) significant at the 90% C.I.

	Reps	Observed	Bias	Std. Err.	[95% Conf.	Interval]
<i>const</i>	50	0.0005297	-0.0000148	0.0001645	0.0001992	0.0008603
<i>Acceleration</i>	50	1.075346	6.222945	7.929789	-14.86016	17.01085
<i>const</i>	50	0.0004904	-0.0000184	0.0001682	0.0001525	0.0008283
<i>Acc/Dis</i>	50	4.90E-04	-1.84E-05	1.68E-04	1.53E-04	8.28E-04
<i>const</i>	50	0.0002923	-2.68E-06	0.0001148	0.0000615	0.000523
<i>Advance Decline Line</i>	50	0.0003203	3.39E-06	0.0000738	0.0001721	0.0004686
<i>const</i>	50	0.0002923	-2.68E-06	0.0001148	0.0000615	0.000523
<i>Aroon Osc.</i>	50	3.20E-04	3.39E-06	0.0000738	0.0001721	0.0004686
<i>const</i>	50	0.000529	-0.0000812	0.0001676	0.0001922	0.0008658
<i>Aroon Up</i>	50	3.47E-05	5.71E-08	3.60E-06	0.0000275	0.0000419
<i>const</i>	50	-0.0039998	0.0000176	0.0002426	-0.0044873	-0.0035123
<i>Avg.Chg.</i>	50	0.0000893	-8.21E-07	5.80E-06	0.0000776	0.0001009
<i>const</i>	50	0.0005507	-1.21E-06	0.0001608	0.0002276	0.0008738
<i>Avg.Neg.Chg.</i>	50	3.58585	-0.0376349	0.2257888	3.13211	4.03959
<i>const</i>	50	0.0018695	0.0003383	0.0011911	-0.0005242	0.0042632
<i>Avg.Pos.Chg.</i>	50	0.0813393	0.0255526	0.0845121	-0.0884942	0.2511728



<i>const</i>	50	-0.0009225	0.0002469	0.0010304	-0.0029932	0.0011482
<i>Average True Range</i>	50	0.0951017	-0.0189344	0.0676075	-0.0407607	0.2309641
<i>const</i>	50	-0.0010654	0.0003286	0.0011351	-0.0033466	0.0012157
<i>Bollinger Band Down</i>	50	1.01E-01	-0.0243747	0.0745082	-4.91E-02	2.50E-01
<i>const</i>	50	0.0006324	-0.0000121	0.0002211	0.0001881	0.0010768
<i>Bollinger Band %</i>	50	-7.00E-12	-2.31E-12	1.35E-11	-3.42E-11	2.02E-11
<i>const</i>	50	0.0009915	0.0003645	0.000991	-0.001	0.002983
<i>Bollinger Band Up</i>	50	1.78E-02	0.0173906	0.0468607	-0.0763287	0.1120115
<i>const</i>	50	-0.0252247	-0.0001581	0.0016021	-0.0284442	-0.0220052
<i>Bollinger Band Width</i>	50	0.0005149	3.25E-06	0.0000347	0.0004452	0.0005845
<i>const</i>	50	-0.0014273	-0.0000142	0.0008383	-0.0031119	0.0002573
<i>Breadth Adv./Decl.</i>	50	7.56E-02	-0.0000658	0.0345894	6.07E-03	1.45E-01
<i>const</i>	50	0.0005498	0.0000497	0.0001912	0.0001655	0.0009341
<i>Chaikin A/D Osc.</i>	50	1.35E-10	-2.41E-10	1.75E-09	-3.38E-09	3.65E-09
<i>const</i>	50	0.3804438	-0.0603768	0.1511844	0.0766274	0.6842602
<i>Chaikin Money Flow</i>	50	-7.60E-01	0.1207862	0.3025126	-1.37E+00	-1.52E-01
<i>const</i>	50	0.0005844	0.0000448	0.0001904	0.0002018	0.0009669
<i>Chaikin Volatility</i>	50	-5.48E-07	-8.35E-07	3.33E-06	-7.25E-06	6.15E-06
<i>const</i>	50	0.0024243	0.0003149	0.0009941	0.0004267	0.004422
<i>CMO</i>	50	-2.02E-03	-0.0003021	0.0012078	-4.45E-03	4.06E-04
<i>const</i>	50	0.0005599	0.0000146	0.0001601	0.0002382	0.0008816
<i>Cole's Rally Day</i>	50	-2.59E-09	-3.81E-06	5.91E-06	-0.0000119	0.0000119
<i>const</i>	50	0.0002214	0.0000985	0.0001461	-0.0000721	0.000515
<i>Cole's Reaction Day</i>	50	0.0008224	0.0002086	0.0003627	0.0000935	0.0015513
<i>const</i>	50	0.0034528	-0.000055	0.00032	0.0028098	0.0040958
<i>Cutler's RSI</i>	50	-0.0126768	0.0001208	0.0009059	-0.0144974	-0.0108563
<i>const</i>	50	-0.0037664	-0.0000451	0.0002812	-0.0043315	-0.0032013
<i>DEMA26</i>	50	0.0176938	0.0002356	0.0016216	0.0144351	0.0209525
<i>const</i>	50	-0.0585672	-0.0013029	0.0095658	-0.0777904	-0.0393441
<i>DEMA26 - MACD</i>	50	0.0011874	0.0000255	0.0001849	0.0008157	0.001559
<i>const</i>	50	0.0004354	-0.0000885	0.0002691	-0.0001053	0.0009761
<i>DPO</i>	50	0.1852596	0.4021375	0.6397073	-1.10028	1.470799
<i>const</i>	50	0.0006072	-6.72E-06	0.0001571	0.0002915	0.000923
<i>DX</i>	50	0.1570658	0.8582256	1.32234	-2.500276	2.814408
<i>const</i>	50	0.0005547	0.0000191	0.0001772	0.0001986	0.0009109
<i>Ease Of Movement</i>	50	0.9767822	-0.0022212	0.0082487	0.9602058	0.9933586
<i>const</i>	dropped					

Envelope						
<i>const</i>	50	0.000564	0.0000549	0.0002167	0.0001285	0.0009994
<i>Exp.Mov.Avg.</i>	50	9.58E-23	1.11E-21	4.23E-21	-8.41E-21	8.60E-21
<i>const</i>	50	0.000536	5.53E-06	0.000221	0.0000918	0.0009802
<i>Exp.Mov.Avg.Diff.</i>	50	0.0101905	0.2832047	0.4125311	-0.8188218	0.8392028
<i>const</i>	50	0.0001446	-0.0000399	0.0001499	-0.0001567	0.0004458
<i>Fosback's Unchanged Issues</i>	50	0.6225011	0.3619737	0.5560339	-0.4948909	1.739893
<i>const</i>	50	0.0006166	9.92E-06	0.0002078	0.0001991	0.0010342
<i>Historical Volatility Indicator</i>	50	0.8349874	5.989328	8.024602	-15.29105	1.70E+01
<i>const</i>	50	0.003101	-0.0000557	0.000412	0.0022732	0.0039289
<i>Hughes Breadth Idx.</i>	50	-0.0026477	0.0000483	0.0004102	-0.0034721	-0.0018234
<i>const</i>	50	0.0006125	-0.000024	0.0002513	0.0001076	0.0011174
<i>Lag.Exp.Mov.Avg.</i>	50	-1.101912	0.003145	0.0476061	-1.19758	-1.006244
<i>const</i>	dropped					
<i>Lag.Exp.Mov.Avg.Diff.</i>						
<i>const</i>	50	0.0005485	3.78E-06	0.0001515	0.000244	0.0008529
<i>Lag.Line Weighted Mov.Avg.</i>	50	-0.0005553	-0.0044838	0.0145347	-0.0297638	0.0286533
<i>const</i>	50	0.0006084	-1.16E-06	0.0002306	0.0001451	0.0010717
<i>Lag.Line Weighted Mov.Avg.Diff.</i>	50	-1.104059	-0.0062043	0.0589173	-1.222458	-0.9856605
<i>const</i>	50	0.0005478	0.0000446	0.0001915	0.0001629	0.0009327
<i>Lag.Mov.Avg.</i>	50	-0.0002192	0.0012275	0.0077771	-0.0158479	0.0154095
<i>const</i>	50	0.0005427	-1.89E-06	0.0001809	0.0001792	0.0009063
<i>Lag.Mov.Avg.Diff.</i>	50	-1.194365	0.0068338	0.0469854	-1.288785	-1.099944
<i>const</i>	50	0.0005482	0.0000152	0.0002117	0.0001228	0.0009737
<i>Lag.Value</i>	50	-0.0004274	-0.0029449	0.0095462	-0.0196111	0.0187564
<i>const</i>	50	0.0005881	0.0000339	0.0001925	0.0002012	0.0009751
<i>Line Weighted Mov.Avg.</i>	50	-1.097134	0.0061232	0.0575034	-1.212691	-0.9815763
<i>const</i>	50	0.0005475	-0.000014	0.0001892	0.0001673	0.0009278
<i>Line Weighted Mov.Avg.Diff.</i>	50	-0.0001012	-0.0038112	0.00636	-0.0128821	0.0126797
<i>const</i>	50	-0.0000458	3.13E-06	0.0001077	-0.0002623	0.0001706
<i>MACD</i>	50	1.354227	0.0011915	0.1301859	1.092609	1.615846
<i>const</i>	50	0.0005293	0.0000199	0.0001878	0.0001518	0.0009068
<i>McClellan Osc.</i>	50	6.285569	-0.0215231	1.502776	3.265628	9.305509
<i>const</i>	50	0.0006453	-0.0000161	0.0002234	0.0001964	0.0010943
<i>McClellan Summ. Idx.</i>	50	0.2267848	1.783087	2.619717	-5.037733	5.491302
<i>const</i>	50	0.0006316	-0.0000141	0.0002165	0.0001966	0.0010667
<i>Momentum</i>	50	0.2084971	2.260737	3.348907	-6.521383	6.938377

<i>const</i>	50	0.0005669	-1.16E-06	0.0002202	0.0001243	0.0010094
<i>Morris Daily Pressure</i>	50	-2.53E-04	0.0000681	0.0007251	-1.71E-03	1.20E-03
<i>const</i>	50	0.0005583	0.0000211	0.0001687	0.0002192	0.0008973
<i>Morris Intraday Accumulator</i>	50	1.44E-06	4.27E-07	1.37E-06	-1.31E-06	4.19E-06
<i>const</i>	50	0.0040727	0.0011224	0.001769	0.0005177	0.0076277
<i>Neg.Chgs.Count</i>	50	-7.31E-03	-0.0023285	0.0039011	-1.51E-02	5.34E-04
<i>const</i>	50	0.000546	0.0000265	0.0002568	0.00003	0.0010621
<i>Neg.Chgs.Sum</i>	50	-7.89E-18	5.73E-17	8.04E-16	-1.62E-15	1.61E-15
<i>const</i>	50	0.0171207	0.0001339	0.0012523	0.014604	0.0196374
<i>Nicoski Idx.</i>	50	-0.003785	-0.000019	0.0002932	-0.0043741	-0.0031958
<i>const</i>	50	0.0036242	0.000547	0.0016947	0.0002185	0.0070299
<i>OBV - Raw</i>	50	0.0446892	0.0087176	0.0290491	-0.0136871	0.1030655
<i>const</i>	50	0.2481347	-0.0457544	0.1025861	0.0419802	0.4542893
<i>OBV Midpoint</i>	50	-2.50E-01	0.0461904	0.1036237	-4.59E-01	-4.20E-02
<i>const</i>	50	0.0001727	-0.0000244	0.0001636	-0.000156	0.0005014
<i>OBV Oscillator</i>	50	1.33E-06	2.26E-07	7.75E-07	-2.28E-07	2.89E-06
<i>const</i>	50	0.0004522	-0.0000198	0.0002064	0.0000375	0.000867
<i>OBV with Average Volume</i>	50	8.78E-09	6.96E-10	2.38E-08	-3.91E-08	5.66E-08
<i>const</i>	50	0.0002292	0.0000816	0.0001802	-0.000133	0.0005914
<i>OBV</i>	50	-0.0001289	-4.54E-06	0.000016	-0.0001611	-0.0000967
<i>const</i>	50	0.0005602	0.000019	0.0001807	0.0001971	0.0009233
<i>Pos.&amp;Neg.Chgs.Counts Diff.</i>	50	-5.17E-02	0.0179247	0.030212	-1.12E-01	9.05E-03
<i>const</i>	50	0.0001727	-0.0000363	0.00014	-1.09E-04	0.0004539
<i>PAIN</i>	50	1.33E-06	4.44E-08	6.19E-07	8.69E-08	2.57E-06
<i>const</i>	50	0.0003503	-0.0000288	0.0001624	0.0000239	0.0006768
<i>Price Volume Rank</i>	50	2.13E-03	-0.0000196	0.0001297	1.87E-03	2.39E-03
<i>const</i>	50	0.0006747	0.0000678	0.0003253	0.000021	0.0013284
<i>Price Vol.Trend</i>	50	2.08E-11	1.88E-11	5.20E-11	-8.37E-11	1.25E-10
<i>const</i>	dropped					
<i>Qstick</i>						
<i>const</i>	50	0.0000716	-6.68E-06	0.0002978	-0.000527	0.0006701
<i>TEMA26 - MACD</i>	50	-2.29E-08	-5.85E-10	2.04E-08	-6.38E-08	1.81E-08
<i>const</i>	50	0.0009281	-7.84E-06	0.0003913	0.0001417	0.0017145
<i>Tomas Demark -max</i>	50	5.87E-07	-6.83E-08	3.97E-07	-2.12E-07	1.39E-06
<i>const</i>	50	0.0005564	9.14E-06	0.0002283	0.0000977	0.0010151
<i>Tomas Demark -min</i>	50	1.99E-01	0.4668553	0.934314	-1.68E+00	2.08E+00

<i>const</i>	50	0.0008832	0.0000159	0.0003936	0.0000923	0.0016741
<i>Up Volatility - Down Volatility</i>	50	-1.03E-06	-1.37E-09	8.28E-07	-2.69E-06	6.38E-07
<i>const</i>	50	0.0006836	0.0000416	0.0002194	0.0002428	0.0011245
<i>Up/Down Volume</i>	50	-1.11E-11	-7.62E-12	2.09E-11	-5.30E-11	3.08E-11
<i>const</i>	50	0.0006363	0.0000619	0.000264	0.0001058	0.0011667
<i>Velocity</i>	50	7.30E-12	2.86E-12	1.01E-11	-1.30E-11	2.76E-11
<i>const</i>	50	-0.0101132	0.0000342	0.0011605	-0.0124453	-0.0077811
<i>Volatility</i>	50	0.0102894	-0.0000797	0.0012024	0.0078731	0.0127057
<i>const</i>	50	0.0006234	-0.0000228	0.0001667	0.0002884	0.0009585
<i>Volume % +/- Average</i>	50	4.20E+00	-0.1035708	0.3874796	3.42E+00	4.98E+00
<i>const</i>	50	-0.0001251	-1.87E-06	0.0003823	-0.0008934	0.0006433
<i>Volume &amp; Price Accumulator</i>	50	-5.92E-06	3.14E-07	3.82E-06	-0.0000136	1.76E-06
<i>const</i>	dropped					
<i>Volume Line Variation</i>						
<i>const</i>	50	0.0004173	0.0000383	0.0002124	-9.57E-06	0.0008442
<i>Vol.Osc. Points</i>	50	-6.04E-09	2.09E-09	1.40E-08	-3.42E-08	2.21E-08
<i>const</i>	dropped					
<i>Volume Rating</i>						
<i>const</i>	50	0.0004138	0.0000715	0.0001731	0.0000659	0.0007617
<i>Volume Reversal Alerts</i>	50	6.65E-06	-4.95E-06	0.0000133	-0.00002	0.0000333
<i>const</i>	50	0.0005444	0.000779	0.0013302	-0.0021286	0.0032175
<i>Volume Weighted RSI - MFI</i>	50	9.46E-08	-0.00002	0.0000328	-6.58E-05	6.59E-05
<i>const</i>	50	-0.0000338	0.0000342	0.000145	-0.0003252	0.0002576
<i>Williams %R</i>	50	-1.98E-05	-1.46E-07	2.47E-06	-0.0000247	-1.48E-05
<i>const</i>	50	-0.1837637	-0.0003781	0.013874	-0.2116446	-0.1558829
<i>Wilder RSI</i>	50	0.0036869	6.93E-06	0.0002806	0.0031231	0.0042507

**Table 6. Bootstrapped Standard Errors**

This table reports estimates obtained by bootstrapping fifty times and use the variability in the slope coefficients as an estimate of their standard deviations. Since observations between firms could be correlated and then bootstrapped standard errors are biased, I used the cluster option which draws clusters with replacement oppose observations with replacement.

	One-way	Two-way	NW	FE	GLS RE
# significant indicators	46	39	36	51	43
> 0	28	27	23	35	27
< 0	18	12	13	16	16

**Table 7: signs of coefficients**